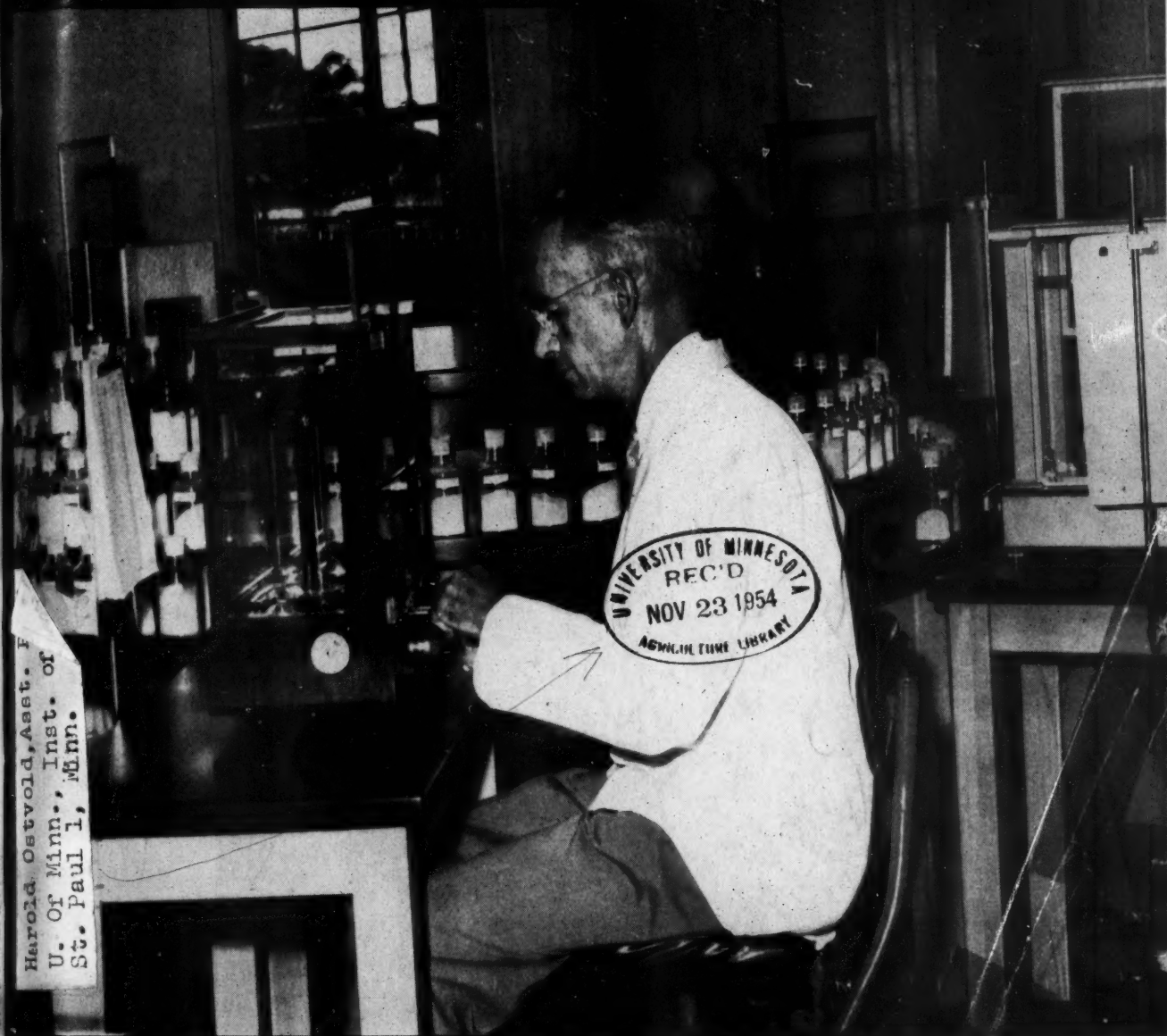


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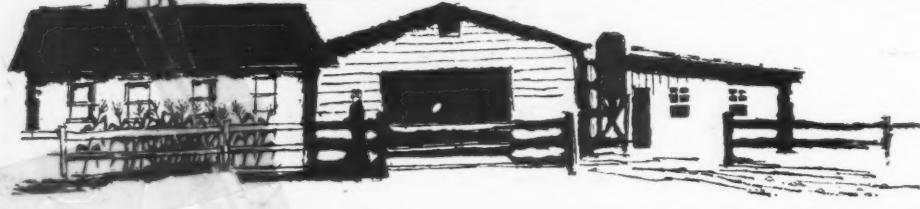
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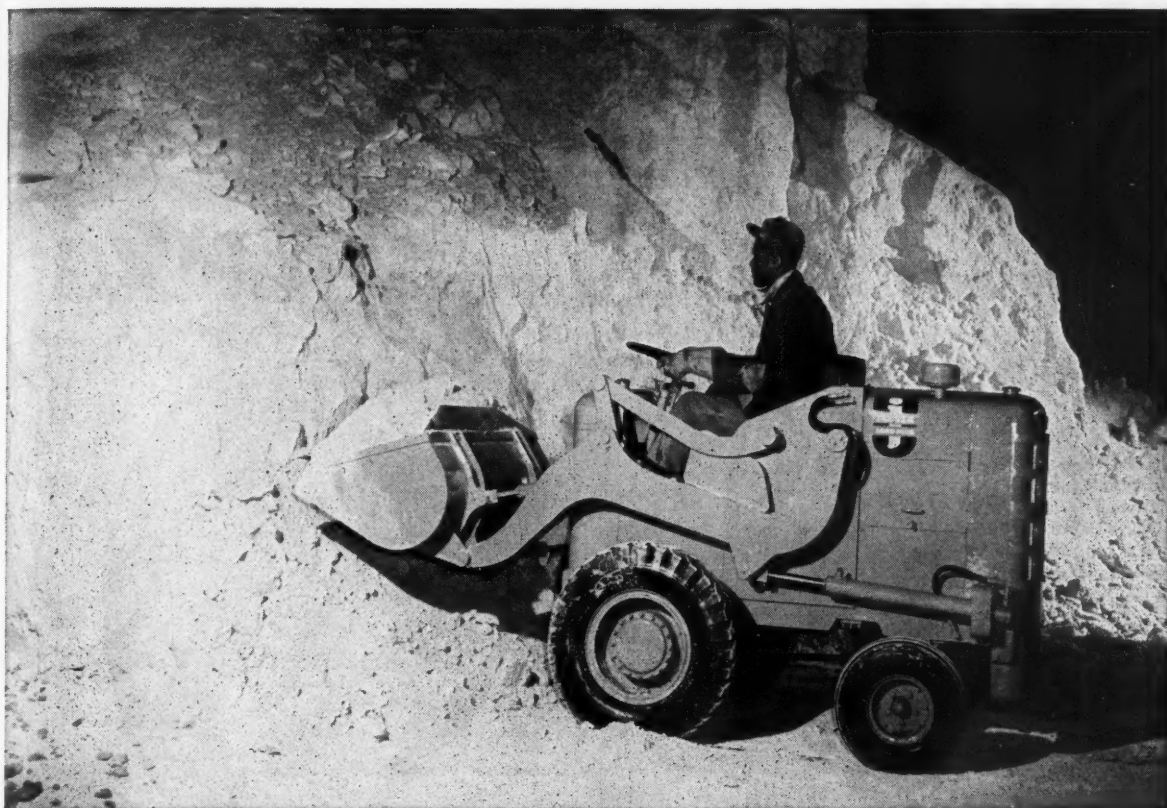
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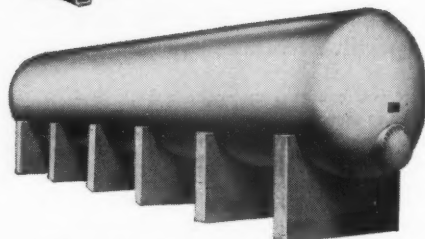
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**Bolted 22,000-gallon non-pressure tank for bulk storage.**



# Farm Chemicals

Pioneer Journal of the Farm Chemicals Industry - Established 1894

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A magazine national in scope and circulation and devoted to manufacturers, mixers, and formulators of fertilizers and pesticides

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GEO. P. TEEL, JR.....Managing Editor  
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## Advertising Representatives

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## Cover Story

International Min. & Chem. corp.'s new East Point, Ga., analytical control lab includes a special "lazy susan" balance table designed by Chief Chemist J. R. Archer. It permits five chemists to work on samples at the same time.

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NOVEMBER, 1954

No. 11

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## In this issue . . .

**Biggest news** in this issue is the issuance of pesticide tolerances, a subject that has caused widespread speculation since passage of the Miller bill. John Harms, FARM CHEMICALS Washington editor, has the complete story with a table of the established tolerances and an abridged text of proposed regulations under which the industry will operate. See page 24 for the beginning of this important feature.

**NFA has Orvis Wells** and Dr. Richard Bradfield scheduled to address its fall meeting this month. A subject of special interest will be the proposed APFC-NFA merger and members of the latter will vote at this meeting. Page 36.

**Some interesting facts** and figures regarding fertilizer usage were included in a recent talk by W. R. Allstetter, NFA vice-president, before the S. C. Plant

Food Educ. Society. Beginning on page 40 there is an edited version of his remarks including a graphic illustration showing how fertilizer does pay off.

**Those interested in FOA bids** may find some assistance on page 43 in a short feature designed to aid the reader in obtaining the required information for participating in the foreign shipments.

**A very successful meeting** of the Fertilizer section, National Safety Council, was held in Chicago last month. Over 200 persons attended the excellent sessions of this group and, beginning on page 45, we have a complete round-up of the material presented there.

**Hurricane Hazel** wasn't able to slow down the agricultural control officials in their yearly Washington convention. Fertilizer and pesticide control men went right ahead with excellent sessions. Coverage begins on page 52.

## Sarasota Bans Organic Phosphates

Sarasota, Fla. has adopted an ordinance prohibiting the use of most organic phosphates as insecticides, a ruling that affects application of parathion, TEPP, HEPP, EPN, OMPA, Systox or similar materials within the city limits.

Malathion was originally included in the ordinance but on advice from the State Board of Health, Bureau of Entomology, it was removed because of its limited toxicity.

B. Harold Farmer, Sarasota administrative assistant, informed FARM CHEMICALS that the ruling came as a result of parathion being sprayed with high pressure rigs on residential lawns "with no regard to wind conditions or proximity of houses." He reports that in one case of sickness resulting from such usage, the insecticide had evidently ricocheted from the lawn through the windows of a nearby house.

Farmer added that the applicators were operating with inadequate safety equipment. The restrictive ordinance was passed after review of information obtained from the county agent, Florida School of Agriculture, State Board of Health and others.

Other cities have also passed such measures and Farmer pointed out that about a year ago Lakeland, Fla. passed a ruling that prohibited the use of parathion.

## New Colorado Fert. Mixer

Land, building and equipment of the former Western Solvents co. in Longmont, Colo., has been purchased by Leon E. Williams, owner of the Diamond A Cattle co. in New Mexico, according to a recent report. Williams has organized the Farm Chemical co. as a fertilizer mixing plant.

George S. Fleming, partner, has been named general manager of the new concern. He was formerly vice president in charge of plant operations for Buckeye Sugar co. in Ottawa, O.

**Full information on the new pesticide tolerances in this issue beginning page 24.**

## Approve Merger Plans

Following release of a joint statement concerning merger negotiations involving the American Plant Food Council and the National Fertilizer Association, it was announced that the boards of directors for both groups have voted to recommend to their respective memberships the proposal for consolidation.

According to the most recent joint announcement, it will be voted on by NFA members attending the fall convention at Hollywood, Fla. on November 10-12 and will be submitted to APFC members at a special meeting scheduled to be held on December 1 in Washington.

Should both trade groups approve the merger, the National Plant Food Institute, a new non-profit corporation, would be created as of July 1, 1955.

The latest release states that, "A 36-member board of directors would constitute the governing body of the Institute and an interim 'work committee' would be named to work out details of the operating program effective on the date of the consolidation."

The merger proposal is based on recommendations of a joint APFC-NFA committee which met in Washington on October 4. The two statements have clarified negotiations which have been the subject of much recent speculation.

## AAC Plans 60,000 ton Humboldt, Iowa Plant

Plans for the construction of a large, modern fertilizer plant on a 56-acre site three miles north of Humboldt, Ia., have been announced by American Agricultural Chemical co.

Engineering plans have been completed on the new plant, which will have an annual productive capacity of approximately 60,000 tons of fertilizer. It is expected to be in operation by early next summer.

Specially designed loading facilities for both bagged and bulk fertilizers will be included, as well as complete facilities for grinding, storing and loading finely ground phosphate rock.

Products to be manufactured include normal superphosphate, mixed fertilizers and phosphate rock.

## Sun Oil Begins NH<sub>3</sub> Plant Second for Phila. Area

The Philadelphia area is slated for another ammonia plant, this one to be constructed by Sun Oil co. at its Marcus Hook refinery. Atlantic Refining co. just completed a 100 ton per day unit at its Point Breeze (Philadelphia) refinery.

Designed to turn out 300 tons per day the plant is scheduled for completion next November. Catalytic Construction co., engineers and builders of Nitrogen div.'s new Omaha, Neb. facilities, has been awarded a contract for process, design, engineering and construction of the \$9 million unit.

Engineering work has already begun, according to T. Ellwood Webster, Catalytic's president, and construction should begin in January.

## Bidders for Turkish Order

Successful bidders for Turkish economic mission contracts under a bid opened on Sept. 9 for purchase of malaria control equipment and supplies included R. W. Greeff & co. (DDT, technical grade); Stauffer Chemical co. (DDT, 75 per cent wettable powder); Rohm & Haas co. (Triton X-100); Crowley Tar Products co. (xylol) and H. D. Hudson Mfg. co. (spraying equipment).

## Bids Announced on FOA Superphosphate for Korea

The General Services Administration received more than 30 offers to supply all or part of the 4,000 metric tons of  $P_2O_5$  in the form of superphosphate which will be purchased by the agency for shipment to Korea under the Foreign Operations Administration program.

FOA's proposed policy change, under which some fertilizer tonnage may be moved in higher priced American flag vessels, was thought to be instrumental in increasing the number of bidders. However, the new policy was not in effect as of the date of the opening.

Bids ranged from a low of \$119 to a high of \$222 per metric ton of  $P_2O_5$ , with prices for superphosphate of domestic origin lower than bids for foreign material in many instances.

Among the bidders were Marubeni co., Japan; General Fertilizer corp., New York; Davison Chemical co., Baltimore; H. J. Baker & Bro., New York City; Olin Mathieson Chemical corp., New York City; Phillips Petroleum co., Bartlesville, Okla.; U. S. Phosphoric Products div., Tennessee corp., Tampa, Fla.; Stauffer Chemical co., San Francisco; Summers Fertilizer co., Searsport, Me.; Nylos Trading co., New York City; Albatross Superphosphate & Fertilizer corp., New York City and Windmill Fertilizer Works, Holland.

Bids were submitted in the name of USDA by the following suppliers: Phillips Chemical co.; Albatross Superphosphate & Fertilizer corp.; F. S. Royster Guano co.; Armour Fertilizer Works; Ishihara Sangyo, Japan; Virginia-Carolina Chemical co.; Nissan Kagaku; International Ore & Fertilizer co.; Davison Chemical co.; Sumitomo, Japan; Taki, Japan and Konoshima, Japan.

## Safety Films, Yearbook Issued by Safety Council

Two new safety films and the 1954 edition of ACCIDENT FACTS are now available from the National Safety Council. ACCIDENT FACTS is a statistical yearbook covering all types of accidents with 20 pages devoted to occupational accidents. Included is a detailed list of accident rates by major industry groups with charts showing trends during the past 25 years. The 96 page book is priced at \$.75 a copy, less for quantities.

The films, "Take Time to Live" and "If You Took Your Family to Work" each run for 12 minutes and are available in 16mm sound movies and 35mm sound slidefilms.

For information and prices on the films, or for copies of the yearbook, write the National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

NOVEMBER, 1954

# Tailings

The contemplated merger of APFC and NFA appears much closer at this date and many predict that the efforts will be successful. Committees have been working out details and the proposal will soon be placed before the memberships.

♦ ♦ ♦ ♦

Rapid tax write-off for ammonia storage facilities was scheduled for discussion in Washington on Oct. 20 by a meeting of industry with U. S. Dept. of Commerce representatives. Questions involved include whether goal should be limited to producers or open to distributors and whether goal should be limited to anhydrous or broadened to include other solutions.

♦ ♦ ♦ ♦

*Warfarin, the killer that rodents love, is seen as an aid in preventing blood clots in patients with certain types of heart and blood vessel disease by Dr. Shepard Shapiro.*

♦ ♦ ♦ ♦

Sam Orleans & Associates, Knoxville, Tenn., is producing a new sound movie, "Rural American Review" for TV consumption. Designed for use by business in creating rural and suburban product acceptance, it is expected to prove popular for reshooting to farm audiences. Subscribers will receive a print of the monthly reel carrying their name on presentation and end titles.

♦ ♦ ♦ ♦

*NAC will take no direct interest in the chemical food additives legislation now under discussion. Its primary concern is said to be that new legislation does not conflict with the Miller bill.*

♦ ♦ ♦ ♦

Rutgers pasture specialist, Milton Sprague, has suggested the use of helicopters in fertilizing steep hillside pastures in the Northeast where tractors can't be safely operated. He pointed to use of DC-3's in New Zealand for spreading concentrated fertilizers.

♦ ♦ ♦ ♦

Manufacturing Chemists' Association is studying development of an independent health research lab for studying effects of chemicals on humans. In announcing the study, William C. Foster, president, pointed to the costs involved in control of hazards and the advantage of results from correlation of existing data and of original research.

♦ ♦ ♦ ♦

*The Iowa Agricultural Limestone Association has again prepared an extensive billboard ad program, consisting of seven posters, each to run for a two month period beginning Nov. 1. Each has a space at the bottom for a company's name and location. The association prepares the posters and sends them to the billboard company which installs and services them. Total cost of poster and board rental averages less than a dollar a day.*

♦ ♦ ♦ ♦

H. W. Hamilton, Chemical Specialties Mfrs. Assn., sees consumption of aerosol units at 200 million this year, a jump of 60 million containers over 1953. The figure includes products of all types and represents an estimated retail value of \$220 million.



## Cominco Nitrogen to USA

First shipments of ammonium nitrate solutions into the US have been made by Consolidated Mining & Smelting co. Some 2,600 gallons of solution were piped into the stainless steel tanks of an Inland Petroleum Transportation truck for hauling to the Columbia Basin area of Washington.

Cominco has reported that during the summer its fertilizer plants at Trail and Kimberly, B. C., and Calgary, Alta., produced their seven millionth ton of high analysis goods. Fertilizer sales now represent about half of the com-

pany's gross operating income and 700,000 tons are expected to be sold during the current year.

## Helicopter Sprays M-H

A helicopter has been utilized by Naugatuck Chemical div., U. S. Rubber co., to spray maleic hydrazide on Connecticut valley tobacco to stop sucker growth.

The material has already been used on Southern flue-cured tobacco for the same purpose and if quality tests show satisfactory results from the present tests in Connecticut, field use in that area is expected next year.

## ASA Symposium on Agricultural Standards

**S**TANDARDS for agriculture and horticulture will be considered in a symposium scheduled for Nov. 16 at the Hotel Roosevelt in New York City. It will be a part of the Fifth National Conference on Standards sponsored by the American Standards Association.

The chairman of ASA's sectional committee K62 on Pest Control Chemicals, H. L. Haller, USDA, will describe work under way in developing national standards for common names of pesticides. J. E. Archer, American Cyanamid co., will describe similar work under way in other countries and the problems encountered by Committee 81 of the International Organization for Standardization in setting up International ISO standards for names of pesticides.

Also on the program are Richard P. White, American Association of Nurserymen, and Cyril Ainsworth, on nursery standards, and speakers who will consider existing and future programs for seed standards.

The committee headed by Haller was formed to develop names for pesticides where they appear desirable as popular designations.

Sponsored by USDA the committee has as its secretary Joe Noone, NACA technical advisor.

Committee members, their organizations and the alternates include: Dr. Leonard T. Capell, American Chemical Society (Dr. M. F. Ravely); Bernard E. Conley, American Medical Association (Dr. Walter Wolman); Dr. S. E. A. McCallan, American Phytopathological Society (Dr. Geo. Zentmyer and Dr. E. A. Walker); Dr. W. E. Snyder, American Society of Horticultural Science (Dr. Paul Marth); A. B. Heagy, Association of Economic Poisons Control Officials; Dr. Warren C. Shaw, Association of Regional Weed Control Conferences (Dr. R. H. Beatty & Dr. L. G. Holm); W. A. Ross, Canadian Standards Association; H. W. Hamilton, Chemical Specialties Manufacturers Assn. (Dr. G. W. Fiero); Dr. H. L. Haller, Entomological Society of America (Dr. A. B. Gurney); Dr. H. L. Haller, Interdepartmental Committee on Pest Control (M. Alpert and W. G. Reed); and J. A. Noone, National Agricultural Chemicals Association (Val E. Weyl and Dr. L. G. Utter). A representative will also be appointed by the U S Trade Mark Association.

## British Weed Conference

On Nov. 2-4 the British Weed Control conference will be held at the Majestic Hotel, Harrogate, England.

FARM CHEMICALS

## Have you these Insecticide production problems?

- Increasing per hour production
- Improving product quality
- Reducing labor costs



## Solve them with RTR\* UNI-BLENDER Compounding Plants

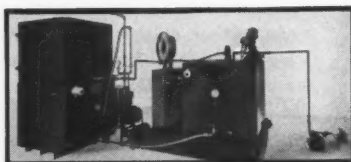
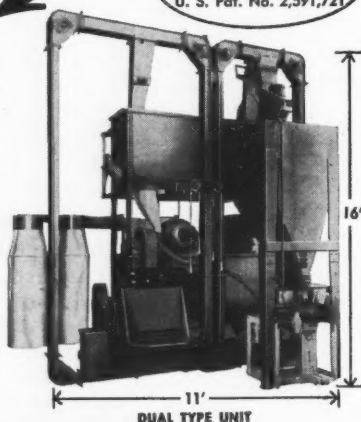
These complete, compact Ready-to-Run units provide maximum production per hour—uniform quality products—at minimum labor and other operation costs.

The Dual type plant elevates, mixes, pulverizes, blends, and packages dust concentrates and also field strength dusts, including those involving liquid impregnation. Jacketed mixers if specified.

Stock models now available in 40, 56, 70 and 100 cu. ft. mixer capacities. Other compounding and liquid formulating plants engineered to your specifications.



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RTR Uni-Blender Liquid Formulating Plants liquefy and blend toxicants used in production of liquid concentrates and liquid sprays.

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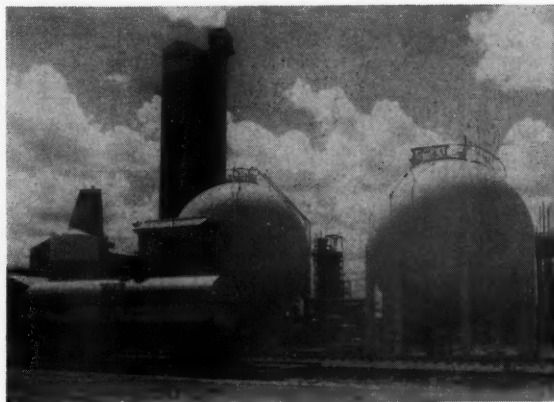
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# Grand River Chem. Div. Plant Now On Stream



Officials of Deere and its Grand River Chemical div. view some of the first tank cars as they are filled for shipment. Back row, left to right, are John R. Taylor, Jr., div. sls. mgr.; C. L. Oheim, Deere vice pres. and L. A. Rowland, div. gen. mgr. and Deere vice pres. Bottom row: R. B. Ady, div. chief engineer; M. A. Fraher, Deere vice pres.; Paul R. Soule, Jr., div. asst. sales mgr.; W. A. Hewitt, Deere exec. vice pres. and W. W. Yeandle, div. works manager.



Nitrogen, as anhydrous ammonia, went on stream at Deere & co.'s new Grand River Chemical div. plant during late August. Rated capacity of the plant, located near Pryor, Okla., is 180 tons of ammonia, most of which will be used in the production of urea. In the foreground of the picture above are the ammonia loading facilities. To the right are huge ammonia storage spheres and at left is a partial view of the nearly completed urea operations

## Standard Oil & Sinclair Plan Ammonia Works

Plans for another northern ammonia plant have been announced, this one to be constructed in Hammond, Ind., by Standard Oil co. (Indiana) and Sinclair Refining co. A new company will be formed to own the plant.

Refineries of both concerns will feed by-product hydrogen and other gases into the unit by pipeline, Standard from its Whiting facilities and Sinclair from its East Chicago refinery. It will be the largest plant in the country producing anhydrous ammonia from by-product hydrogen and will include facilities for making ammonia and ammonium nitrate solutions.

Products will be marketed chiefly in the midwest area with Standard and Sinclair handling their respective portions separately. Shipments are to be made by tank truck and car.

Target date for completion of construction and for initial operation has been set for early 1956. Standard, which will supervise construction and later operate the plant under contract with the new company, was obtaining bids from contractors at press time.

Site preparation will begin late this fall with initial construction tentatively set for next spring.

## CSC Builds Nitroparaffin Unit

Contract for construction of a nitroparaffin plant at Sterlington, La., has been awarded by Commercial Solvents corp. to Ford, Bacon and Davis Con-

struction corp. of Monroe, La. This is the first step in expansion of the company's nitroparaffin facilities and is expected to go on stream next August.

CSC also plans enlargement of existing nitroparaffin derivative facilities at Peoria, Ill. Present and potential uses of this new family of organic chemicals was the theme of a display at the National Chemical Exposition held last month in Chicago.

## New Eston Cotton Defoliant

Tumbleaf-ML, a new liquid cotton defoliant, now is being marketed by the Agricultural Chemicals dept. of American Potash & Chemical corp.'s Eston Chemicals div.

A colorless liquid, it is completely soluble in water and will not clog equipment or stain cotton. Tumbleaf-ML contains no boron, a desirable feature in areas in which soil has an oversupply of boron chemicals. The company's Tumbleaf, developed two years ago, contains boron and is suitable for areas with a deficiency of the chemical.

## V-C Ohio Phosphate Plant

Virginia-Carolina Chemical corp.'s phosphoric acid and sodium polyphosphates plant in Fernald, O., is in full production, according to an announcement by Edwin Cox, vice president. Frank R. Keenshan has been named plant superintendent, and G. G. Morrisette, assistant plant superintendent. Both were formerly with the firm at Charleston, S. C.

## Propose Reduction in N. C. Compensation Rates by 2.8 %

A proposal for reducing workmen's compensation rates in North Carolina an average of 2.8 per cent, as of Nov. 1, has been made by the Compensation Rating and Inspection Bureau.

A decrease of 5 per cent for manufacturing groups, an increase of 1.9 per cent for contracting groups and a reduction of 3.8 per cent for all others is proposed in the filing, which is based on loss experience for the period Aug. 1, 1950 to July 31, 1952. Consideration has been given for experience during the year ended June 30, 1954.

The reduction, if approved, will be the first in the state since 1949, when there was a 7.2 per cent cut. Annual premium savings under the new filing have been estimated at \$429,000.

## AMA Report Issued

"Nothing but long-range growth for the economy ahead" was predicted by Lawrence A. Appley, American Management Association president, in the 31st annual AMA report recently released to the 19,000 members of the non-profit management educational association.

During the 1953-54 fiscal year 48,500 executives attended AMA conferences, briefing sessions, seminars, courses and exhibits, according to the report, compared with 22,000 ten years ago. The association sponsored 315 individual meeting events contrasted with 11 in fiscal 1944—a 29-fold increase in ten years.

# Fertilizer . . . A Better Bargain Than Ever

Did you  
know...

... that fertilizer prices, in terms of plant food content, have advanced only **13%** since 1935?

... that prices of all items farmers buy have advanced **125%** in the same period?

(Source: U. S. Department of Agriculture)

These are  
the facts:

Back in 1935, the average plant food content of a ton of fertilizer was 18.6%. Today it averages 25%.

This increase in plant food content has largely offset price rises. Thus, on the basis of what is actually in the bag, fertilizer has risen in cost only 13% since 1935.

**FERTILIZER IS A BETTER BARGAIN THAN EVER!**

The National Fertilizer Association

Envelope stuffers have been prepared by the National Fertilizer Association to emphasize that fertilizer prices have not advanced along with the prices of other

goods purchased by farmers.

Offered to NFA members, the stuffers have a gummed edge so that they can be attached by dealers to statements

sent customers. The wording, cleared with USDA, points out that the gains made in plant food content have largely offset price rises.

## Yazoo City Plant Ups Ammonia Production

Ammonia production capacity at Mississippi Chemical corp.'s Yazoo City, Miss. plant is being upped from 120 tons to a total of 290 tons a day through one completed expansion project and two that are still under way.

In one of the present projects, a

unique idea is being used to increase capacity. A second stage of carbon monoxide conversion and carbon dioxide removal followed by a single stage low pressure (10 psi) methanation step is being added. The original high pressure (1000 atmospheres) methanation step will be eliminated and the vessel modified to an ammonia synthesis converter.

This phase, expected to be completed soon, will provide additional capacity at a minimum of capital expenditure.

The other operation involves addition of a fourth multi-tube reformer furnace and should be completed during December. This will bring the second purification and ammonia synthesis train up to full capacity. Additional synthesis gas compressors are being added to the plant as required for various expansion steps.

The first addition, placed in operation last January, increased capacity from 120 to 195 tons and included installation of a third reformer furnace and necessary gas purification equipment.

Design, engineering and construction for the added facilities is by the Girdler co., engineers and constructors of the original plant.

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## More Westvaco Phosphate

Extensive deposits of high-grade phosphate rock and shale in Rich county, Utah, have been acquired by Westvaco Mineral Products div., Food Machinery & Chemical corp., according to W. N. Williams, president.

The division's Mineral Development dept. carried out economic evaluation and exploratory development work, under the direction of O. A. Powers at Pocatello, Ida.,

## AP&C Lab in Operation

Approximately 60,000 individual tests per month can be conducted in the new \$150,000 control laboratory now in operation at American Potash & Chem. corp.'s Trona, Calif., main plant. The dust-proof and air-conditioned two story



Lloyd Howell weighs salts and liquids, while Norman Adams "pipettes" samples, assisted by J. W. Brown, at AP&C's control lab.

structure measures 60 by 40 feet and is an all-metal windowless building constructed by Stearns-Roger Mfg. co., Denver, Colo.

Prime function of the lab is constant testing of solutions, before and after processing at the Trona plant, for quality control. The latest in safety and convenience devices are incorporated in the equipment.

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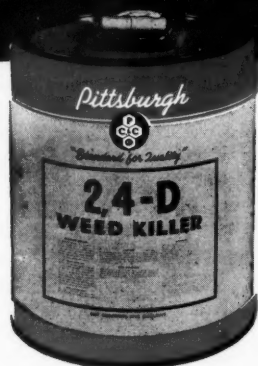
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NOVEMBER, 1954

9

## Phillips Markets Nitrogen at Retail



Phillips Chemical co. now markets ammonium sulfate, at retail level, in 25, 50 and 100 pound multiwall bags through the Phillips chain of gasoline stations. The new merchandising method permits the company to reach directly the profitable home garden market with a plus factor of having a custom made delivery system through the customer's car. The system is proving beneficial to dealers, too, who add a new line to their wares enhancing the sale of other products.

### El Salvador Pesticide Rules

New regulations governing importation, manufacture and sale of farm chemicals have been prepared by El Salvador. Items affected include fertilizers, chemical and organic, products intended for improvement of soil fertility; insecticides, pesticides, fungicides and repellents for use for fauna and flora; patent medicines, sera vaccines and other biological products for veterinary use and herbicides and chemical and biological products intended for use on vegetation.

A certificate of approval must be issued by the Ministry of Agriculture and Livestock before these products may be imported, manufactured or sold.

### TVA Fertilizer Distributors

Fertilizer produced in Tennessee Valley Authority's experimental laboratories and plants was being used on test-demonstration farms in 22 states, and was being distributed in educational sales programs by private companies and cooperatives in 35 states when the 1954 fiscal year closed on June 30, TVA reported today.

Private industry firms handling TVA materials at the close of the year were Capital Fertilizer co., Montgomery, Ala.; Cornland Plant Foods, Grinnell, Ia.; Darling & co., Chicago; Epting Distributing co., Leesville, S. C.; Knoxville Fertilizer co., Knoxville; Mathieson Chemical corp., Baltimore; Oklahoma Fertilizer & Chemical co., Oklahoma City; Summers Fertilizer co., Baltimore; Sylacauga Fertilizer co., Sylacauga, Ala.; The C. D. Smith co., Grand Junction, Colo.; Thurston Chemical co., Joplin, Mo.; Wagner Farm Products co., Schuyler, Neb. and Tennessee corp., East Point, Ga.

### Plan German Ammonia Plant

A new ammonia plant with an annual output of about 20,000 tons is reported planned by the Knapsack-Griesheim AG, a successor company of the former IG Farben combine. Construction of a second furnace for production of phosphorus and phosphoric acid which would boost the company's output of phosphorus to about 25,000 tons is planned.

Approval is needed by the Allied authorities for the project. The company at present is allowed to produce up to 10,000 tons a year.

## USDA NEWS

USDA's 1954 Yearbook of Agriculture entitled "Marketing" has been released. The 520 page volume includes 18 sections and 88 chapters and was written by 117 marketing specialists. It is distributed mainly by Congressmen but may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. at \$1.75 a copy.

\* \* \* \*

Nine more Kansas counties have been designated as drought disaster areas where eligible farmers can participate in emergency programs. This makes a total of 39 counties in Kansas and brings to 691 the number in 15 states to be tabbed for assistance.

\* \* \* \*

Vernal alfalfa, developed at the Wisconsin experiment station, will be available in quantity next year. A harvest of 1.5 to 2 million pounds was anticipated by USDA. Vernal has shown high wilt resistance in addition to a capacity for surviving severe winters and has most promise in states from the Dakotas to the Atlantic.

\* \* \* \*

The 1954 Census of Agriculture fact sheet will include questions on fertilizer and lime usage. Farmers will be queried on quantities and costs of fertilizer used, crops involved and acreage covered.

\* \* \* \*

Four sub-committees—the Committee on Popular Publications, Intermediate and Miscellaneous Publications, Technical Publications and Periodicals—have been appointed by assistant secretary of agriculture J. Earl Coke, chairman of the Publications Review committee. They have been asked to review publications and publication policies and planning and make recommendations for improvement.

\* \* \* \*

USDA has established a new Mesa, Ariz., field station for research on stored-grain insects. A major project, under the direction of the Biological Sciences branch, Agricultural Marketing Service and in cooperation with Arizona and California experiment stations, will be an attack on the Khapra beetle.

First work at the station will be directed at development of fumigation or other treatments for infestations in feed, grain, seed or shipping facilities to prevent spread of the pest and the investigation of treatments for application to infested structures and surrounding areas to reduce or eliminate existing infestations.

FARM CHEMICALS

## Ammonium Phosphate Plant Added by Brea

Brea Chemicals, Inc. is continuing expansion of its facilities at Brea, Calif., the latest addition an ammonium phosphate plant. Phosphoric acid is being blended with aqua ammonia to form a

## Ag Advisory Service

Many unique services are being offered its subscribers by the Agricultural Advisory and Adjustment Bureau of Boston, Mass. This organization has been created, according to Mortyn K. Zietz, chairman of the board, upon the "suggestions and recommendations" of persons throughout the agricultural industry who "acknowledged dissatisfaction with present methods of credit reporting—collections and adjustments within the industry."

To overcome this lack, the Bureau has included persons with long experience both with the ag industry and the general credit and adjustment field. It is counseled by a 10 man advisory board which meets to discuss policies, efficiencies and broadening of services.

One of the services now offered is "accuracy insurance" in verifying real estate ownership and real estate and chattel mortgage searches. A virtual guarantee of accuracy is offered, backed with a "surety bond" issued to each subscriber by a leading insurance company.

## People

American Aerovap Inc., has elected F. F. Winberg president and member of the board of directors. Winberg had been general manager of the company, which was a pioneer in the field of controlled vaporization of insecticides.

New director of engineering for American Potash & Chemical corp., Trona, Calif., is Calvin L. Dickinson. He will direct all Trona engineering functions, including power, maintenance, construction and stores. Dickinson, who joined AP&C in December, 1953, had been plant manager of the Organic Chemicals div., Diamond Alkali co., at Houston, Tex.

C. F. Rogers has been named general sales manager by American Tractor corp. Formerly with Lindsay Bros., Rogers will work with company officers

solution containing 8 per cent nitrogen and 24 per cent  $P_2O_5$ .

The unit was completed in time for Brea to supply growers with material for fall application. Stability of the solution makes it possible to spray it on soils and crop residues in addition to the usual drill injection or irrigation water-run methods.

Constructed by Macco corp., it is the first of three such units planned by Brea at a combined cost of about half a million dollars. Early next year plants at Fresno and Brawley are scheduled to begin operation.

## Small Business Loans

Among farm chemicals companies which have borrowed money from the Small Business Administration since the agency began receiving loan applications last October are Tri-State Chemical co., Henderson, Ky., \$80,000; Soil Service, Laddonia, Mo., \$10,000; Edward Miller, Florala, Ala., \$17,000; Beam & co., Seneca Falls, N. Y., \$150,000; M. C. Boyle Phosphate co., Chicago, \$150,000; Farmers Warehouse co., Cleveland, Miss., \$150,000; John R. Collins (Lime Service Co.), Christman, Ill. and Chemical Insecticide corp., Brooklyn, N. Y.

## Canadian Fertilizer Exports

Almost one-third of Canada's total chemical exports during 1953 were fertilizers, valued at \$43,000,000.

Chemical imports still continue to rise, 18 per cent in 1953 to \$222 million, of which \$12 million was fertilizer.

in setting up a sales organization to offer local service to each trading area and give sales coverage for 30 different markets.

S. M. Spencer, Bemis Bro. Bag co., has been appointed assistant manager of the company's St. Louis plant and Sales div. He will be succeeded as supervisor of textile bag sales by W. J. Ray, who has been acting as his assistant.

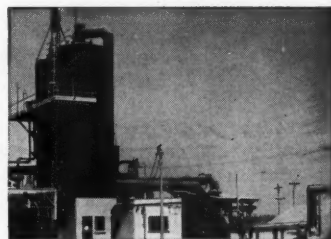


Spencer

Spencer joined Bemis in 1937 at St. Louis, was put in charge of the company's Oklahoma City sales office in 1940, later was made supervisor of open-mesh bag sales and supervisor of textile bag sales. Ray has been with the company since 1933.

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Horne

**Bradley & Baker** has transferred Everett C. Horne from Indianapolis to New York City. Horne, formerly a sales representative, will be general sales manager of the Fertilizer div. Edwin T. Baker replaces Horne at Indianapolis.

Recently appointed manager of Process Engineering dept. of **Catalytic Construction co.** is George F. Klein, Jr., formerly with Spencer Chemical co.

Arthur M. Brooks has joined the Market Research and Development dept. of **Columbia-Southern Chemical corp.** Associated with Raffold Process corp. of Andover, Mass., since 1922, Brooks served as a vice president of that firm during the past 24 years.

**Consolidated Mining and Smelting co.** has named J. H. Salter head of its Chemicals and Fertilizers div.

David P. Barrett has been appointed sales manager of Industrial Chemicals dept., **Davison Chemical co. div.**, filling the vacancy created by the resignation of N. E. Hathaway.

Appointment of Roy L. Goltz as New York district manager for petroleum catalysts of **Davison Chemical co. div.**, has been announced by Page Edmunds, department sales manager. Goltz will make his headquarters at Davison's New York office, 420 Lexington Ave.

Dr. Albert W. Meyer, in charge of U. S. Rubber co.'s New Materials dept. at Passaic, N. J., for the past three years, has been named to the newly-created position of director of exploratory research for **Diamond Alkali co.** The new organizational arrangement advances C. C. Brumbaugh to director of research—atomic energy, alkali and electrolytic products, and Thornton F. Holder, patent counsel for the company for the past eight years, becomes research coordinator and patent counsel.

Two sales representatives have been promoted to managerial posts at **Diamond Alkali co.'s** Cleveland headquarters and Chicago sales office, respectively.

Kemble S. Lewis becomes sales manager of the Plastics div. and will be responsible for polyvinyl chloride resin sales. He is succeeded as assistant branch manager in Chicago by Olin Smith.

S. M. MacCutcheon, safety director, **The Dow Chemical co.**, has been elected chairman of the General Safety committee of the Manufacturing Chemists' Association. MacCutcheon, former vice chairman, succeeds R. H. Albisser of Merck & co. Newly elected vice chairman is G. L. Gorbell, safety director for Monsanto Chemical co.

**Du Pont co.** has appointed Dr. Dale E. Wolf manager of the Agricultural Chemicals Research section, Grasselli Chemicals dept. He succeeds the late Dr. Harry F. Dietz, who died Sept. 4.

Dr. Wolf had been assistant manager of the section, and is a co-author of "Principles of Weed Control" along with Dr. G. H. Ahlgren and G. C. Klingman.

Two new managers for **Ethyl Corp.:** Richard K. Scales, general manager of its Detroit research laboratories, and George F. Kirby, Jr., general manager of research and engineering at the Baton Rouge plant. Scales had been director of automotive products research and Kirby, director of research on chemical products.

**Fertilizer Engineering & Equipment co.** has named Roger H. Matuszak consulting engineer technician, according to an announcement by James E. Madigan, president.

Election of Benno C. Schmidt to the board of directors of **Freeport Sulphur co.** has been announced by Langbourne M. Williams, president.

**Gilman Paper co.** has named Fletcher L. Munger assistant to the vice president in charge of sales and James W. Taylor, head of research, sales promotion and advertising for its subsidiary, Kraft Bag corp.

Grace Chemical co.'s president, William P. Gage, and Davison Chemical co. president, Marlin G. Geiger, have been elected vice presidents of **W. R. Grace & co.** Both men are members of the board of directors of the company.

**Grand River Chemical div.,** Deere & co. has added four men to its staff: Harold J. Haeffele and Robert C. Horn, from Kansas State Teachers College; J. B. Reynolds from Libby-Owens-Ford and Martin L. Weakly from Celanese corp. Reynolds and Weakly have been named to the research staff.

Dr. F. W. Poos, on leave from the Entomology Research branch, USDA, has been appointed editor of the **JOURNAL OF ECONOMIC ENTOMOLOGY**, on which he has been serving temporarily since the retirement of Dr. L. M. Peairs last year. His mailing address is in care of the Entomological Society of

America, 1530 P St., NW, Washington 5, D. C.

M. C. Yerigan, recently appointed sales representative in the Northwest territory for **Hammond Bag & Paper corp.**, will make his headquarters in Minneapolis and assist J. O. Michelson in servicing accounts in Minnesota, Iowa, North and South Dakota.

Three new members have been elected to the board of directors of **Hercules Powder co.**—L. W. Babcock, director of personnel; John E. Goodman, treasurer and Ernest S. Wilson, director of engineering.

The company also announced the appointment of Dr. W. G. Kinsinger as sales supervisor of phenol and derivatives and Edwin S. Ladley as director of purchases, succeeding Lawrence J. Finnan, who will retire on Dec. 31 after 40 years of service.

Ross R. Worthington has been named sales manager of the Bagpak div., **International Paper co.** He succeeds



Worthington

Roy I. LaMarche, who is retiring as sales manager after 50 years of service.

Worthington first joined International in 1934 as a chemist with Bagpak, Inc., a subsidiary co. He is succeeded as assistant manager by A. G. Clarke, who has been district sales manager in Boston and Atlanta.

Dr. Ralph M. Hixon, dean of the graduate college at Iowa State, has been chosen to receive the 1954 Midwest Award of the American Chemical Society's St. Louis section. Through his research in agricultural chemistry, Dr. Hixon has made significant contributions to both farming and industry.

**Michigan Chemical corp.** has appointed Dr. J. R. Gump research supervisor in charge of the company's Inorganic Research section. The company has also added Donald Kase and Robert Meyerand to its Process and Development section as process engineers.

Dr. Gump, who joined the Technical div. in September 1953, has had three years of teaching experience at Lawrence Institute of Technology and the University of Cincinnati.

Dr. John T. Goodwin has been named manager of the Chemistry Research div. of **Midwest Research Institute.** Prior to joining the institute Dr. Goodwin had been associated with Mid-Continent Petroleum corp., Gulf Re-

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search and Development co., Mellon Institute of Industrial Research, Dow-Corning Chemical co. and General Electric.

**Millmaster Chemical co.** has announced the appointment of Howard E. Milius as manager of product development. He had been with Du Pont co.'s Grasselli Chemicals dept., General Aniline & Film corp.'s Antara Chemicals div. and Humphrey-Wilkinson, Inc.

Newly-named sales manager of the Chemical div., **Mississippi River Fuel corp.**, is John L. Sanders. With headquarters at 407 North Eighth St., St. Louis 1, Mo., Sanders will handle the sale and distribution of ammonium nitrate, anhydrous ammonia and nitrogen solutions for the newly formed division, to be known as Mississippi River Chemical co. Production from the new ammonia plant at Selma, Mo. is expected in the fall of 1955.

Dr. George E. Bennett has been transferred to the Personnel Relations dept. of **Monsanto Chemical co.** In his new post, he will be in charge of technical recruitment at the doctorate level.

Died: W. Roy Geddes, on Sept. 12. Vice president of **North American Cyanamid, Ltd.**, which he joined in 1948 as assistant to the president, Geddes had also served as a director of Chemical Construction (Inter-American) Ltd.

E. M. Kitchen has been transferred from **Pacific Coast Borax co.**'s Plant Food div. to its Industrial div. A graduate of New Mexico A & M, he has been with the company since 1936, and served most recently in charge of research and development work on boron deficiency problems in the Midwest.

Alfred J. Oxenham has been named sales development manager for the Coal Chemicals div., **Pittsburgh Coke & Chemical co.**

The division also announced the appointment of William R. Blackstock as sales representative in the Pittsburgh and Midwestern areas and the transfer of Richard J. Murphy to the division as sales representative, with headquarters in New York City.

Recent appointments at **Pittsburgh Plate Glass co.**: Michael J. Batenburg, director of information services; Richard W. Dittmer, manager of public relations and Norman L. Park, manager of publications.

Batenburg will be in charge of the company's public relations, publications and advertising, succeeding Guy J. Berghoff who recently was appointed

assistant to the vice president, Merchandising div.

Robert D. Sharp, former Southwestern sales manager for John Powell & co. has joined **Prentiss Drug & Chemical co.** as assistant to John R. Stoddard, vice president in charge of insecticides and other farm chemicals. Sharp will be located at Prentiss' New York office.



Sharp

After receiving a B. S. degree in entomology from Purdue University in 1950 he joined Powell's Technical Service dept., was appointed head of the company's Entomological section in 1951 and Northeastern sales manager in 1952.

Two new members have been named to **Raymond Bag co.**'s Chicago district office sales organization, W. Ray Raleigh and E. H. Pyle. Sales for a portion of Chicago and the remainder of Illinois will be handled by Raleigh, while Pyle will represent Raymond in a portion of Chicago and Wisconsin.

**Rhodia, Inc.** has named Warren B. Thompson sales representative in the Middle Atlantic states, with headquarters in Philadelphia. He had been with Du Pont co.

Seymour M. Barer has been appointed chemical engineer in the Engineering dept. of **Foster D. Snell, Inc.**, Willard R. Crandall, chemist in the Product Development dept. and James Mauceri, editorial assistant for **CHEMICAL MARKET ABSTRACTS**.

Dr. Robert L. Womer, assistant for divisional research, Olin Mathieson Chemical corp., has been named vice president in charge of research and development by **Speer Carbon co.**

Three appointments have been announced by **Standard Oil of Ohio's** Petrochemicals dept. general manager, Edward F. Morrill. Donald G. Stevens, former chief of the Manufacturing dept.'s Technical Service div., has been named plant manager of the new \$17 million Lima plant; Granville B. Ryan, former assistant to the vice president for manufacturing, has been named manager of the Market and Product Development div. and William H. Ringler, Technical Service div.'s senior engineer, has been appointed assistant to the manager of Market and Product Development div.

The Lima petrochemical plant is expected to be completed late in 1955, stated Morrill.

Died: Theodore A. Haschke, 56, in New York Hospital after an illness of five weeks. He had been director of sales for **Stauffer Chemical co.**'s Industrial Chemicals div. and a director of Old Hickory Chemical co.

In the recent Maine elections, James C. Totman, assistant treasurer of **Summers Fertilizer co.** and vice president of Northern Chemical Industries, was reelected to his third two-year term in the Maine State Legislature. When the body convenes in January, Totman will be one of the leading candidates for Republican floor leader, the company reports.

Died: Dr. Davis Grandison Fairchild, 85, at his home in Coconut Grove, Fla. A plant explorer for the **USDA** for half a century, he was author of "The World was my Garden." Dr. Fairchild joined the **USDA** in 1898 and retired in 1928, but continued to cooperate with the department in introduction of new crop plants.

Appointment of Dr. George W. Irving, Jr. as deputy administrator in charge of research has been announced by Dr. Byron T. Shaw, administrator of **USDA's** Agricultural Research Service. In this position Dr. Irving will coordinate investigations of the 16 branches in **ARS** engaged in studies covering many fields of agricultural science.

Acting chief of the Fertilizer staff of **USDA's** Commodity Stabilization Service, James M. Lowe, has been named program officer on the staff of the Commissioner of Indian Affairs, U. S. Dept. of the Interior. Lowe, who has served on the **USDA** Fertilizer staff since January, 1951, became acting chief last fall following the death of Lewis G. Porter.



Rechter

**Union Bag & Paper corp.** has appointed Harry M. Rechter director of flexible packaging sales. A member of the Union organization since 1945, Mr. Rechter served most recently as director of home eycorb sales.

Promotion of Harry L. Mahl to superintendent of the new Insecticide dept. of **Velsicol corp.**'s Memphis, Tenn., plant has been announced. Mahl, who joined the staff of the Memphis plant in 1952, has been engaged in development projects, production and most recently in projects of design for the new Memphis organic chemical plant.

Marvin Lissner has been promoted to

FARM CHEMICALS



superintendent of Velsicol's Memphis works Heptachlor plant.

**Vulcan Steel Container co.**'s president, Gordon D. Zuck, has announced the appointment of Donald W. Spurrell as his assistant. Spurrell's duties will include industrial relations, production control methods and research.

W. F. George, until recently district sales manager for Hooker Electrochemical co., has joined **Witco Chemical co.** as special assistant to the president. He organized and conducted W. F. George Chemicals, Inc. for several years and later was co-publisher of **CHEMICAL INDUSTRIES**, now known as **CHEMICAL WEEK**.

**Wyandotte Chemicals corp.**'s Michigan Alkali div. has announced appointment of David H. Burger as administrative assistant in the organics group and F. M. Zorn as a technical service representative.

### Company Briefs

A patent infringement suit has been filed by **American Cyanamid co.** in the U. S. district court for the Northern district of New York against Bristol Laboratories claiming infringement by Bristol of Cyanamids U. S. Patent covering chlortetracycline sold under the trade name Auremycin. The company's complaint claims that Bristol is manufacturing and selling an antibiotic composition which contains material covered by Cyanamid's patent and that Bristol, in making its product, uses processes and methods covered by Cyanamid's patent.

About 1,000 acres of land between Bartow and Fort Meade, Fla. have been bought by **American Cyanamid** for more than \$700,000. The company, which has Florida headquarters in Brewster, already has extensive phosphate holdings in the area.

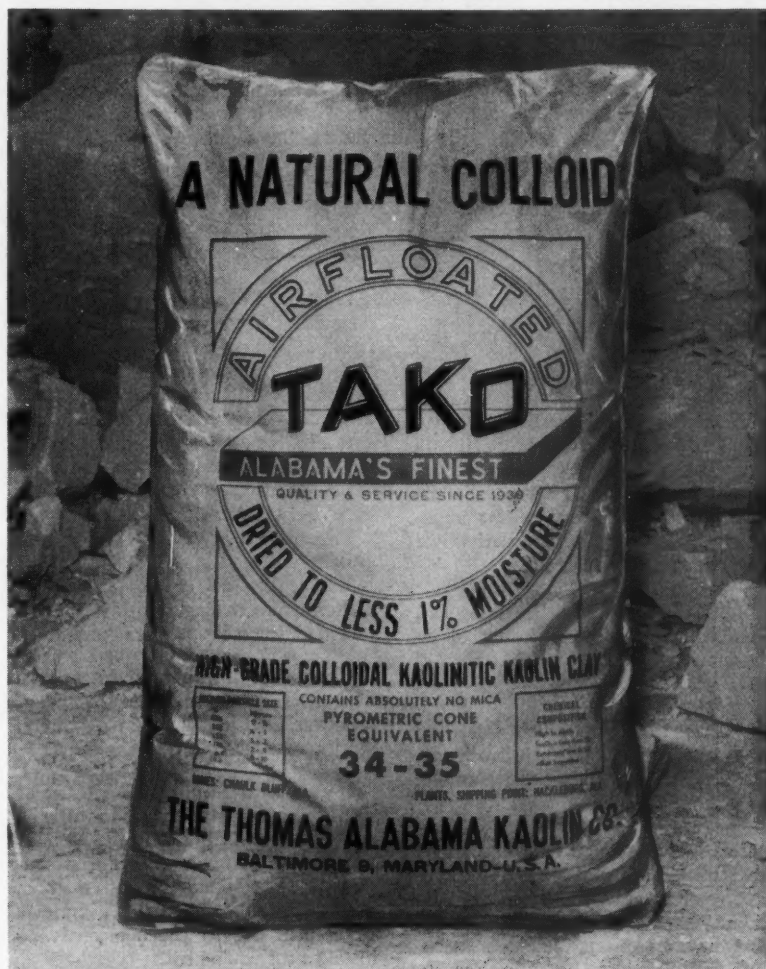
**Associated Metals & Minerals corp.** has been named exclusive sales agency in several foreign countries for sulfur being produced by Mexican Sulphur co. at San Cristobal, Veracruz, Mexico, according to a joint company announcement. Among the countries are United Kingdom, Germany, Belgium, Brazil and Australia.

Shipping for export is expected to begin in November from stockpiles of sulfur which have been building up since production began last March.

Production began on Oct. 7 at **Atlas Powder's** new esterification plant in Brantford, Ont., according to F. E. Sterne, managing director of Atlas Pow-

NOVEMBER, 1954

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### Non-abrasive • Non-hygroscopic • Non-caking • Free-flowing

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der co., Canada, Ltd. The plant is now making Atmul 82, a mono and di-glyceride food emulsifier and has facilities to produce the ester type emulsifiers used by pesticide, mining, petroleum and other industries. Plans are being made for the possible addition of a second unit on the same site, to produce ethylene oxide type derivatives.

Charter of incorporation has been granted to **Baldwin Liquid Fertilizer co.**, Bay Minette, Ala.

**Boonville Mill & Grain co.** has added fertilizer mixing facilities to its operation at Boonville, Mo., according to a recent report.

Nitroparaffins were featured at **Commercial Solvents corp.**'s new educational exhibit at the Chicago Coliseum last month. Specially trained market development personnel manned the exhibit to advise visitors on the application of nitroparaffins and derivatives to specific industry problems.

**Delta Chemical and Fertilizer co., Inc.** has been granted charter of incorporation listing capital stock of \$100,000.

**The Dickerson co.** has moved to larger quarters at 130 North Broadway, Camden 2, N. J. Telephone Number: WOODLAWN 6-2300.

**Farmers Cotton Oil Co.** has grown from a \$14,200 firm in 1902 to a corporation which today has more than \$1,781,777 in assets, stated T. F. Bridgers at a recent stockholders' luncheon. In Wilson, Va., last year the company handled more pounds of material than the Wilson tobacco market sold pounds of tobacco, the president added.

Corporate export offices have been established by **Food Machinery and Chemical corp.** in New York City to represent the company's export lines of farm and industrial chemicals and various machinery. Located at 161 East 42nd St., the office provides an eastern contact point where exporters and overseas visitors may secure technical assistance and information on FMC products, the company reports.

Sales and Technical Service staffs of **Alrose Chemical co.** div. were absorbed by **Geigy Industrial Chemicals**, a new division of **Geigy Chemical corp.**, on Sept. 15. The new division was organized to promote industrial sales of Alrose and Geigy products.

Operations of **Thurston Chemical co.** and **Naco Fertilizer co.** are to be integrated into those of **Davison Chemical co.** div., according to **W. R. Grace**

& co. **Joplin** is expected to become the No. 1 division of **Davison** and will be western headquarters for **Davison** as well as **Thurston** and **Naco**. **William R. Thurston**, founder of **Thurston Chemical co.**, has withdrawn from executive management of **Thurston** and **Naco** divs. but will remain as a consultant, the company stated.

**Gro-Mor, Inc.**, a fertilizer firm, was incorporated at **Junction City, Kans.**, with authorized capitalization of \$30,000. Resident agent is **Ralph L. Weir, Jr.**

**Hudson Pulp & Paper corp.** has announced a complete realignment of its multiwall sales force, based upon assignment of sales duties along manufactured product classification. Aimed at achieving an organization of highly specialized sales representatives in product and customer's problems, the move did not effect a change in **Hudson** personnel but reassigned duties.

Promotion of **W. N. Cromwell** to eastern sales manager with headquarters in **New York** and **B. C. Drumm** to western sales manager with headquarters in **Chicago** also was announced.

Charter of incorporation has been filed by **Insecticide Chemical corp.** at **Dover, Del.**, listing authorized capital stock at \$100,000.

**Iowa Farm Supply co.**'s plant at **Des Moines** recently installed additional equipment to further control dust after two years experimentation and investigation to determine the best method, according to **Fertilizer Engineering & Equipment co.**, which engineered and installed the equipment.

An **Industrial Wastes** div. has been organized by **Kaighin & Hughes**, with **Edmund B. Besselièvre** as its manager. With organization of the division, the company is equipped to provide all services, including design, engineering and contracting to solve waste materials problems, according to **Lloyd I. Hughes**, president.

**Lamson corp.**, **Syracuse**, recently acquired **Mobilift corp.**, industrial fork truck manufacturer. **Mobilift** now is known as **Lamson Mobilift corp.**

**Montana Phosphate Products co.** bid the minimum \$5 an acre for 560 acres located six miles west of **Avon**, **Powell county, Mont.**, available from **Bureau of Land Management**, U. S. Dept. of the Interior, for phosphate lease.

The **Small Business Administration** has tentatively approved a \$36,000 loan to **J. L. and W. H. Bryan, Northeast Mississippi Fertilizer co.**, **Amory, Miss.**

**New British Dominion Oil Ltd.**, has named **Ford-Bacon & Davis** engineers for its proposed \$500,000 **Etzikom, Alta.**, ammonia plant.

**Noranda Mine co.**'s new plant for production of elemental sulfur, sulfur dioxide and highgrade iron sinter from pyrite was scheduled to start production in October. Rated capacity of the plant, which is located near **Welland, Ont.**, is 350 tons of pyrite concentrate per day, and output is expected to be 54,000 tons of sulphite annually. Of this, about one-third is to be in the form of elemental sulfur and the balance as sulfur dioxide gas, to be used by the adjoining plant of **North American Cyanamid** in the manufacture of sulfuric acid.

Highest sales and earnings in **Smith-Douglass co.**'s history were attained in the year ended July 31, 1954, stated **Ralph Douglas**, company president, in his annual report. Net income was \$2,457,099, \$2.51 per share, compared with \$2,175,162, or \$2.26 per share, for 1953. Net sales for the year, \$39,511,538 reflect an increase of 6.3 per cent over the \$37,160,524 reported for 1953.

The **Houston, Tex.**, team of **Smith-Douglass co.** led the safety league for the period Jan. 1 to Aug. 31, 1954, with no lost time accidents in 117,670 man hours. Total man hours reported by the company were 1,903,347, with nine lost time accidents, for an accident frequency rate of 4.73.

**Super Crop Plant Foods, Inc.**, a new **Ottumwa, Iowa**, concern which is expected to be in operation this season, has leased approximately 25,000 feet of space in which to manufacture granular fertilizer. Plant equipment was designed and furnished by **Fertilizer Engineering & Equipment co.**

The price of **DL-methionine** for feed use has been reduced more than 10 per cent by **U. S. Industrial Chemicals co.** **USI** has moved its **New York** Sales div. offices to the **National Distillers Bldg.**, 99 Park Ave., from 33 West 42nd St. New telephone number: **OXford 7-0700**.

Construction of a \$1 million chemical manufacturing plant at **Norfolk, Va.**, is reported planned by **Virginia Smelting co.**

**D. M. Weatherly co.** has moved to larger offices at 830 **Ponce de Leon Ave.**, **Atlanta, Ga.** The company, an organization of process consultants, designers and builders, is handling plant expansion programs in several states in the **Middle West** and **South**, most of which include granulation facilities.

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NOVEMBER, 1954



## Associations & Meetings

### GPFS Contributes to FFA Contest Prizes

The Georgia Plant Food Educational Society reported in its publication, *WHAT AND WHY*, that it is contributing \$500 to the Vocational Agriculture dept. for prizes in an FFA contest on "Opportunities for a Commercial Horticultural Enterprise on My Farm." Purpose is to stimulate interest in expansion of commercial production of peaches, vegetables and other horticultural crops.

*WHAT AND WHY* also reported that new posters showing 1954-55 recommended grades have been prepared by the extension service. Available at printing cost, \$4 per hundred, they may be ordered from J. P. Carmichael, associate editor, Agricultural Extension Service, Athens, Ga. Checks should be made payable to Treasurer, University of Georgia.

### CFA Continues Grant-in-Aid

The California Fertilizer Association is continuing to donate funds to the University of California's Agricultural Experiment Station for research on cotton, cereal and forage crops. A three year agreement, now in its second year, provides \$4,000 annually as a grant-in-aid to the Department of Agronomy.

Recent emphasis has been on cotton work, and reports have been most rewarding, states CFA. Emphasis now will be shifted to forage crops, rangelands and irrigated pasture.

### Fertiliser Society Meets

Usage of fertilizers in North and South Africa was the subject of papers presented at The Fertiliser Society's general meeting on Sept. 28 in Piccadilly, London. J. F. Twinch read a paper by D. B. D. Meredith, D.Sc., of African Explosives & Chemical Industries, Ltd. on usage in South Africa and L. G. Carpentier of the International Superphosphate Manufacturers Association discussed North African fertilizer usage.

### Packaging Machinery Group

At the annual fall meeting of the Packaging Machinery Manufacturers Institute, held in Ashville, N. C., on Sept. 13, Tom Miller of Package Machinery co. was elected president for the ensuing year.

Also chosen were two vice presidents—John B. Wilson, Wright Machinery div., Sperry corp., and Mills W.

Waggoner, Better Packages—and four directors—W. E. Huegenin, Stokes & Smith div., Food Machinery and Chemical corp.; O. W. Wikstrom, Jr., U.S. Automatic Box Machinery co.; E. J. Abendschein, Chisholm-Ryder Co. of Pennsylvania and C. A. Wetli, Hudson Sharp Machine co.

### Lab Group Changes Name

The American Council of Commercial Laboratories has changed its name to the American Council of Independent Laboratories, following a vote of members. The council says the new name has been well received and observers have commented that the name is more descriptive of the function of professional consulting laboratories.

### Gornito & Clarke Begin S.C. Fert. Safety Group

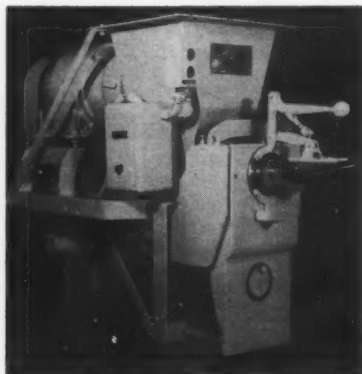
A Fertilizer Safety section has been organized in South Carolina by Vernon Gornito, chairman of the Fertilizer section, National Safety Council, and T. J. Clarke, vice chairman. Meetings will be held at the state's Annual Accident Prevention conference in Spartanburg on Nov. 18 and 19.

Talks and speakers scheduled for the meeting include "How to Run a Safety Meeting," T. J. Clarke, G.L.F. Soil Building Service; "Small Plant Programs," W. C. Creel, N. C. Dept. of Labor; "Good Housekeeping," E. O. Burroughs, Jr., F. S. Royster Guano co.; "Gadget Display," John Miskelly, Mathieson Chemical co.; "Case History Panel," Curtis A. Cox, Virginia-Carolina Chemical co. and "Safety is Inspiring," C. J. Watts, Jr., Naco Fertilizer co. Vernon S. Gornito will be presiding officer.

## Equipment & Supplies

### New Stoker Bag Packer

H. L. Stoker co., has introduced a new, small and economical bag packer called the Econo-Speed Model 54 which fills either valve or open mouth bags



and drums. The unit delivers one cu. ft. of material in five to 10 seconds.

Delivered as a complete package, the packer handles materials such as insecticide dusts and some fertilizers. For details circle Readers Service item 334.

### S-A Belt Conveyor Parts

Stephens-Adamson Mfg. co. now offers a complete set of belt conveyor components pre-engineered for customer assembly. Units are designed for lengths up to 50 feet and from 51 feet through 100 feet in both 18 and 24 inch belt widths. Limiting capacity for 18 inch

belts is 150 tons per hour and for 24 inch belts, 250 tons per hour.

The conveyor components include the new S-A 745 carrier and return roll, head and tail pulley assemblies, drive assembly, normal duty roller type hold-back, spring type belt cleaner, bent plate decking, belt and Swivelpiler for extending storage area at conveyor discharge. Users may choose either a Saco speed reducer drive with overhead motor mounting or a shaft mounted reducer.

For more information on the components, which can be purchased as a package unit or as replacement units, circle 336 on Reader Service card.

### Air-Break Starter Line

A new line of Air-Break starters for 2,200-5,000 volt squirrel-cage, wound-rotor and synchronous motors has been announced by The Electric Controller & Mfg. co. The starters are built in three styles—50,000 kva interrupting capacity; with power fuses for systems of 150,000 kva (2300 volt) and 250,000 kva (4600) availability and in the Valimitor (volt-ampere-limiter) style in which air-core reactors limit infinite kva to a finite value within the rating of the starter.

Incorporated in the complete starter are safety door-switch on the disconnect-switch compartment, swinging overload panel, self contained bus for group installation, meters as required and cabinet-doors which may be lifted off concealed-type hinges during installation.

## Y&T Hand Lift Truck Book

Moving and storing of many types of multi-unit loads by Yale pallet hand lift trucks is pictured and described in an attractive brochure published by Yale & Towne Mfg. co.

Illustrated with actual application photographs showing how hand trucks can increase efficiency in handling a variety of materials, the booklet features a section describing different pallet types and designs and gives their specifications.

For a copy of the brochure, circle 342 on Reader Service card.

## All Purpose Truck-Dolly

A hand truck, platform truck and heavy duty dolly are all combined in the new Universal All Purpose Truck, according to Techtman Industries, the manufacturer.

With an overall height of 50" it is a hand truck of 900 pounds capacity. By shifting the handle to a vertical position right angle to the platform, it becomes a platform truck with a capacity of 1600 pounds. By removing the handle and shoe, it becomes a heavy duty dolly. Techtman says the changes can be made in a few seconds without the use of tools.

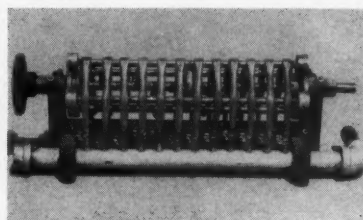
## Liberty Mfg. Liquid N. Applicator

Liberty Manufacturing co., Red Springs, N. C. has introduced a liquid nitrogen applicator designed to handle both non-pressure and low pressure solutions. A unique hose pump, the result of research by state and Federal engineers, it provides a metered and controlled flow without contact between solution and any moving parts.

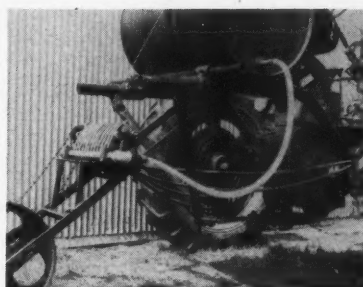
The patented pumping system, writes Jim Green, Liberty agronomist, should help bring about some changes in present liquid fertilizer usage. In addition to eliminating corrosion worries the design also includes no small orifices so that foreign particles do not cause stoppages.

Headed by Edwin Pate, president, the Liberty organization has been pioneering in liquid nitrogen application in the South. (See August, 1954 FARM CHEMICALS, page 30). Use the Readers Service card, item 322, for more information.

Full information on the new pesticide tolerances in this issue beginning page 24.



ABOVE: Rear view of the hose pump, which provides metered, controlled flow without contact between solution and moving parts. BELOW: N applicator, tractor-mounted, for both non- and low-pressure solutions.



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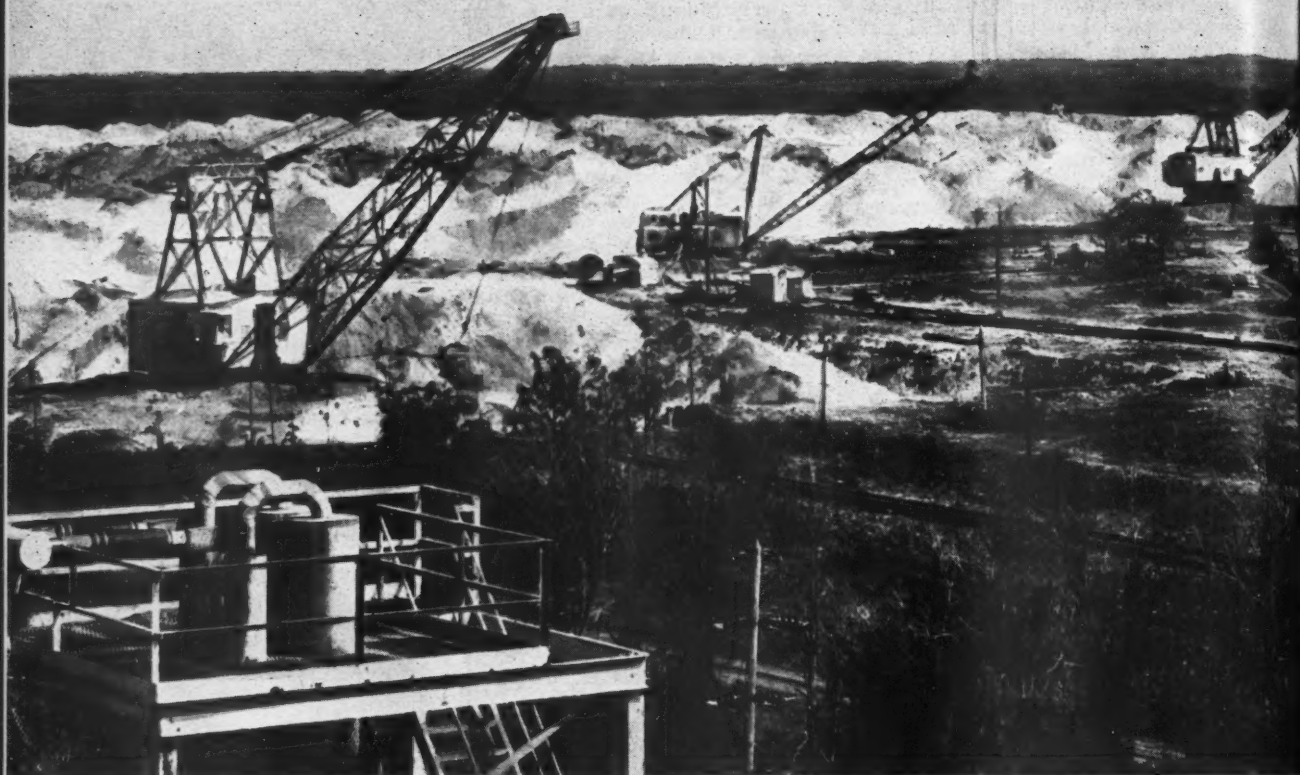
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Gelatin Bone Products Salt Cake Ammonium Carbonate

Sulphuric Acid Fluosilicates Insecticides and Fungicides

Phosphoric Acid and Phosphates

Phosphorus and Compounds of Phosphorus



From the air—wet rock storage and drying plant, with dry rock storage silos in background. These silos, 29 in number, have a total capacity of 40,000 tons of dried rock. Under the silos are four runways where 40 railroad cars can be loaded at a time.

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# Washington Report

**By Fred Bailey & John Harms**

**Farm income down again next year . . . but stability is ahead.** That's the forecast of the Nation's top farm economists meeting recently at the Agriculture department's annual Farm Outlook conference. Here's the way they see it:

**Acre restrictions** on cotton, corn, wheat and tobacco **plus lower price supports** for some of the farmers' big money crops definitely point to both lower gross and net income in agriculture. Some reduction in production expenses is seen—possibly some in fertilizer and pesticides. These reductions will permit some offsetting of the net income decline in 1955, but not all.

**Over-all reduction in net farm income may be on the short side of 5 per cent, according to some of the top economic thinkers.** Others, representing industries close to agriculture, however, believe the decline may be even more. The consensus thus is bearish. Net income this year is estimated at \$12.5 billion. For next year, it looks like \$12 billion—give or take a few million.

**This means more competition for the farm dollar.** Durable goods manufacturers in the Midwest already are prepping for it—on the basis of their early soundings in the farm belt. While chemical use on farms isn't likely to be affected as directly by this belt-tightening as machinery makers, for instance, economists say the reaction will be felt here too.

**But the old theory of farm-fed, farm-led depressions now is being discounted** by many economists. They foresee 1955 as the end of the 3-year farm income slide . . . stability after 1955. The depression, they say, is not about to spread to the rest of the economy. On the contrary, these competent economists believe expanding business and industry will serve to yank up agriculture by the bootstraps . . . barring more severe drought.

**Arthur F. Burns, chairman of the President's Council of Economic Advisers, sees a** "steadily rising trend of business and income" for the Nation in the next several years. . . IF there is no world war. We know now, he says, how to avoid depressions.

**The Economic Council recently reported to** President Eisenhower that all seven of the broad economic indicators point to improvement in 1955 over 1954. Factory output has turned the corner and employment is rising. National income points upward and consumer spending is rising. Building activity is high, investments are increasing, and farm prices show signs of stabilizing.

**Significant trends show up in the Agriculture department's 1954-55 fertilizer supply estimates.**

**Trend:** Popularity of solution and liquid nitrogen materials continues to grow. Forecast is that "wet" nitrogen will amount to 45 per cent of the current marketing year's total nitrogen supply. Last year this type of material accounted for 43 per cent of the total. **Trend:** Manufacturing of phosphate concentrates is getting more emphasis. Of the total supply in 1954-55, about 22 per cent is expected to be concentrates, compared with 20 per cent for the past year. Potash materials break-down is expected to show practically no change from past year's 50-60 per cent muriate, accounting for about 91 per cent of the total supply.

**In brief, the department's forecast on fertilizer materials for 1954-55, compared with 1953-54, is this:** Nitrogen, 2,200,000 tons, compared with 2,020,000, an increase of almost 9 per cent; phosphate, a slight drop from 2,364,000 tons to 2,350,000 tons and potash, 1,970,000 tons, compared with last year's 1,831,000 tons. Net increase of fertilizer materials over last year is 5 per cent.

**Nitrogen expansion program is going over the top**—seems to be no doubt about it in Washington. Agriculture department estimates indicate the 1955 goal of 2,185,000 tons of N will be over-shot slightly. Total domestic capacity is likely to be about 22,000 tons over the goal of 2,930,000 tons set for July 1, 1955.

**As for the Jan. 1, 1957 goal of 3,500,000 tons of N**—if the companies taking advantage of the fast tax write-off program and the firms going it alone follow through, potential supply could be 500,000 to 1,000,000 tons over the goal.

**There is reason to believe that the excess may be absorbed by agriculture**—if no war comes along. There is some indication that agriculture's needs three years hence have been underestimated. If the increase in farmers' N use continues its present pace—an average 200,000 tons higher each year since 1949—the excess would be almost entirely absorbed.

**Fertilizer used on cotton in 1955 is not expected to drop off as much as next year's acre cutback would indicate.** There's no question that fewer acres will be fertilized next year, but officials expect those that remain in production will be fertilized heavy enough to take up the slack. Here's the picture:

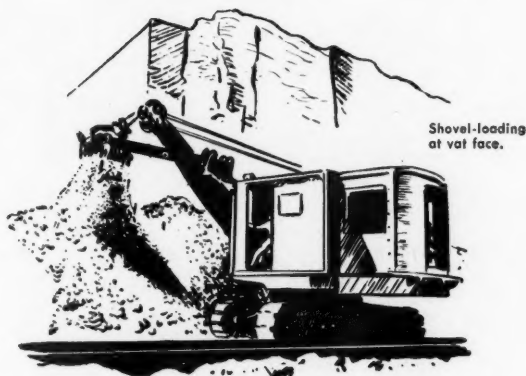
**The Agriculture department has set a marketing quota of 10 million bales to be sold from next year's crop.** This translates out to a national acre allotment of about 18.1 million acres. While growers will vote for or against this sharp cut-back Dec. 14, there's very little doubt they will approve—since it means the difference between price support at close to 90 per cent of parity if they accept the restrictions, and price support at 50 per cent if they vote them out. The 1954 acre allotment of 17.9 million acres was approved last year by 95 per cent of those voting (this was later increased to 21.4 million acres by Congress).

**Agriculture department figures show that this year 11.9 million acres out of the total 19.9 million actually planted were fertilized.** That's 59 per cent. In 1953, out of 25.2 million acres planted, 14.8 million were fertilized. This also is 59 per cent. The 1943-53 average of cotton acres receiving fertilizer is 49 per cent.

**Thinking in Washington is that with an 18.1 million acre allotment (which may or may not be increased by Congress) farmers will boost per-acre fertilizer applications**—and use only their best land. Thus 1955 may be a year in which we get almost 100 per cent application of fertilizer to cotton, and perhaps little change in overall consumption.

**Results of the 1954 Agricultural Census—now in progress—should be invaluable to the farm chemicals industry.** You'll be able to get up-to-date facts and figures to help plan future operations. Census results can be used for estimating need for new products or for expansion programs; determining location and size of manufacturing plants; predicting sales trends; selecting of products, as for example, proper insecticides, for markets and areas; establishment of sales districts and routes; establishment of sales quotas; checking of dealer performance against quotas and planning of expansion programs.

**First results of the census** will be those for individual counties, early in 1955. As the new year progresses, state figures will become available. But it probably won't be until the end of 1955 or the beginning of 1956 before the national totals and summary are out.



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# FDA Issues Pesticide Tolerances, Regulations

By John Harms

**T**HE long-awaited tolerances for pesticidal residues on fresh fruits and vegetables have now been proposed by the Food & Drug Administration of the Department of Health, Education and Welfare.

It's now up to manufacturers to appraise the proposed tolerances under Miller bill amendments and file exceptions, if any, with the Government, or live with them. Interested parties have until about Dec. 20 to file exceptions. Tolerances are based on scientific information developed at hearings held in 1950.

At the same time the HEW department made the proposed tolerances official in the *Federal Register*, Oct. 20, it laid down proposed regulations on operational procedures.

The regulations, which are subject to change before becoming final, will become the law of the land sometime after Dec. 20. In brief, the regulations would:

**Set up exemptions for a group of common pesticides which are entirely safe when properly used on growing crops. These are:**

Common copper compounds (except those containing arsenic); petroleum oils; pyrethrum, rotenone, and four synergists used to enhance their effects; ryania and sabadilla. The exemptions do not apply when this group of materials is used at time of harvest or after harvest.

**Establish operating procedures and fees to make administration of the new law self-supporting. The proposed application fee for a new tolerance is \$500 and the proposed fee for extending a tolerance to additional crops is \$140.**

**Set up procedure for the appointment by the HEW department of experts selected by the National Academy of Science to committees to advise the department in regard to controversial scientific questions arising in the establishment of tolerances. The cost of an advisory committee would be paid by the person requesting that it be appointed.**

They also propose that no residues of the following

pesticides shall remain on fruits or vegetables—that these pesticides shall have a tolerance of zero:

**Calcium cyanide  
Dinitro-O-sec. butylphenol  
Dinitro-O-cresol  
Nexaethyl tetraphosphate (HETP)  
Tetraethyl pyrophosphate (TEPP)  
Hydrocyanic acid  
Mercury-containing compounds  
Nicotine and nicotine-containing materials  
Selenium and selenium-containing compounds**

Some of these compounds, for example, calcium and hydrocyanic acid, are applied to crops at such time in their growth, or are dissipated so rapidly after application, that a zero tolerance will have little or no effect upon the manner in which they are employed in agriculture.

Others, such as the mercury and selenium compounds, if employed at all, must be used with unusual care to keep the finished crop from bearing any residues when marketed.

Under the proposed regulations any listed fruits and vegetables (see table) could legally be distributed in interstate commerce if it does not carry more than the specified tolerance of a permitted pesticide. But, FDA officials say, combinations of pesticide residues with related pharmacologic effects are limited so that the total amount of combined residues will be safe.

The tolerances, based on the 1950 hearings, do not take into account technological and research advances made since that time but are subject to change under the procedure of the new amendment. Officials say new scientific data relating to the safety of any pesticide could be filed in the form of an application for a new tolerance. In a number of cases the evidence received in the 1950 hearings was not sufficient, according to FDA, to permit establishment of a "satisfactory" tolerance. Applications to establish tolerances for these pesticides, and for any new pesticide chemicals, or to revise existing tolerances, would also be processed under the new Miller amendment. Zero tolerances would be set whenever it is found that any amount of residues of a pesticide, however small, would be unsafe for consumers, or where there was insufficient data to establish safety, FDA says. ♦

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# Proposed Tolerances

Pesticide      Tolerance  
in p.p.m.

Aldrin                      0.1

Benzene hexa-              5  
chloride

Calcium                      3.5 of  
arsenate                      combined  
As<sub>2</sub>O<sub>3</sub>

Copper                      3.5 of  
arsenate                      combined  
As<sub>2</sub>O<sub>3</sub>

DDT                          7

Chlordane or              0.1  
heptachlor

2,4-D acid                      5

Dicyclohexyl-              1  
amine salt of  
dinitro-O-  
hexylphenol

Dieldrin                      0.1

EPN                          3

## Fruits and vegetables to which tolerance applies

### Potatoes, sweet potatoes

Apples, pears, quinces, apricots, avocados, cherries, citrus fruits, grapes, guavas, mangoes, peaches, nectarines, pineapples, plums, strawberries, asparagus, beans, black-eyed peas, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, corn, eggplants, kale, collards, lettuce, mustard greens, okra, onions, peas, peppers, spinach, Swiss chard, tomatoes

Blueberries (huckleberries), raspberries, blackberries, loganberries, strawberries, asparagus, beans, black-eyed peas, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, celery, corn, cucumbers, eggplants, kale, collards, melons, peppers, pumpkins, spinach, squash, tomatoes, turnips

Cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, tomatoes

Apples, pears, quinces, apricots, avocados, blueberries (huckleberries), cherries, citrus fruits, cranberries, currants, gooseberries, grapes, guavas, mangoes, papayas, peaches, nectarines, pineapples, plums, raspberries, blackberries, loganberries, rhubarb, strawberries, artichokes, asparagus, beans, black-eyed peas, beets, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, celery, corn, cucumbers, eggplants, endive, kale, collards, lettuce, melons, mushrooms, mustard greens, okra, onions, parsnips, peanuts, peas, peppers, pumpkins, radishes, rutabagas, spinach, squash, tomatoes, turnips

### Potatoes

Apples, pears, quinces, citrus fruits

Apples, pears, quinces, apricots, cherries, grapes, peaches, nectarines, plums, raspberries, blackberries, loganberries, strawberries, beans, black-eyed peas, celery

Apples, pears, quinces, apricots, cherries, peaches, nectarines, onions

Apples, pears, quinces, apricots, cherries, citrus fruits, peaches, nectarines, pineapples, plums, raspberries, blackberries, loganberries, strawberries, corn, lettuce, spinach, turnips, beans, black-eyed peas, beets



# Forbam

7

**Fluorine compounds**      **7 of combined fluorine**

**2-Heptadecyl glyoxalidine**      **5**

**Lead arsenate**      **7 of combined lead**

**Lead arsenate**      **1.0 of combined lead**

**Magnesium arsenate**      **3.5 of combined  $As_2O_3$**

**Methoxychlor**      **14**

**Naphthalene acetic acid**      **1**

**Parathion**      **1**

**Phenothiazine**      **7**

**Sodium arsenate**      **3.5 combined  $As_2O_3$**

Apples, pears, quinces, apricots, blueberries (huckleberries), cherries, cranberries, currants, dates, gooseberries, grapes, guavas, mangoes, papayas, peaches, nectarines, plums, raspberries, blackberries, loganberries, beans, black-eyed peas, beets, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, collards, carrots, celery, cucumbers, eggplants, kale, lettuce, melons, mustard greens, onions, peanuts, peas, peppers, pumpkins, radishes, squash, tomatoes, turnips

Apples, pears, quinces, apricots, blueberries (huckleberries), citrus fruits, cranberries, grapes, peaches, nectarines, plums, raspberries, blackberries, loganberries, strawberries, beans, black-eyed peas, beets, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, corn, cucumbers, eggplants, kale, collards, lettuce, melons, mustard greens, okra, peanuts, peas, peppers, pumpkins, radishes, squash, tomatoes, turnips

Apples, pears, quinces, cherries, raspberries, blackberries, loganberries

Apples, pears, quinces, apricots, blueberries (huckleberries), cherries, cranberries, currants, gooseberries, grapes, mangoes, peaches, nectarines, strawberries, asparagus, celery, eggplants, peppers, tomatoes, avocados

Citrus fruits (grapefruit, lemons, oranges, tangerines)

Beans, black-eyed peas

Apples, pears, quinces, apricots, cherries, cranberries, grapes, peaches, nectarines, pineapples, raspberries, blackberries, loganberries, strawberries, asparagus, beans, black-eyed peas, beets, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, corn, cucumbers, eggplants, kale, collards, lettuce, melons, mushrooms, peas, peppers, pumpkins, radishes, squash, tomatoes, turnips

Apples, pears, quinces

Apples, pears, quinces, apricots, avocados, cherries, citrus fruits, currants, dates, figs, gooseberries, grapes, guavas, mangoes, peaches, nectarines, pineapples, raspberries, blackberries, loganberries, strawberries, artichokes, beans, black-eyed peas, beets, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, celery, corn, cucumbers, eggplants, kale, collards, melons, mustard greens, okra, parsnips, peas, peppers, pumpkins, radishes, spinach, squash, Swiss chard, tomatoes, turnips

Apples, pears, quinces

Grapes

(Continued on page 29)

# PHILLIPS OFFERS



## FERTILIZER MATERIALS FOR HIGH ANALYSIS MIXTURES

### 1 AMMONIUM SULFATE



New Premium Quality Phillips 66 Ammonium Sulfate contains 21% nitrogen, 23.8% sulfur. It is *dry-cured* to remove excess moisture—prevent caking. Uniform, dust-free crystals flow freely—mix easily. Ideal for all analyses of mixed goods and for direct application. Available in bags or bulk.

### 2 ANHYDROUS AMMONIA



Phillips 66 Agricultural Ammonia contains 82% nitrogen. It's a convenient, economical source of nitrogen for formulation. Tank car shipments are assured to Phillips contract customers by Phillips huge production facilities in the Texas Panhandle and at Adams Terminal near Houston, Texas.

### 3 NITROGEN SOLUTIONS



Get more N per dollar! There are three Phillips 66 Nitrogen Solutions for use in preparation of

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### 4 AMMONIUM NITRATE



Phillips 66 Prilled Ammonium Nitrate contains 33% nitrogen. The small, coated prills or pellets resist caking . . . handle easily. Depend on Phillips 66 Prilled Ammonium Nitrate for uniform, free-flowing properties in formulations and top-notch crop response as a direct application material.

### 5 TRIPLE SUPERPHOSPHATE



Phillips 66 Triple Superphosphate contains 46% available phosphoric acid. Uniform, free-flowing material . . . ideal for use in formulation of high analysis fertilizers and for direct application. Available in bags or bulk.

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NEW YORK, N. Y.—80 Broadway  
OMAHA, NEB.—WOW Building  
PASADENA, CALIF.—604 Citizens Bank Bldg.

SALT LAKE CITY, UTAH—68 South Main  
SPOKANE, WASH.—521 E. Sprague Ave.  
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TAMPA, FLA.—1214 South Dale Mabry  
TULSA, OKLA.—1708 Ulrica Square  
WICHITA, KAN.—501 KFH Building

## Proposed Tolerances (Continued from page 27)

Tartar emetic	3.5 of combined antimony trioxide	Citrus fruits, grapes, onions
TDE (DDD)	7	Apples, pears, quinces, apricots, cherries, citrus fruits, grapes, peaches, nectarines, raspberries, blackberries, loganberries, strawberries, beans, black-eyed peas, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, corn, eggplants, peas, peppers, spinach, tomatoes
Toxaphene	7	Apples, pears, quinces, apricots, citrus fruits, peaches, nectarines, raspberries, blackberries, loganberries, strawberries, beans, black-eyed peas, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, celery, corn, cucumbers, eggplants, lettuce, okra, onions, parsnips, peas, radishes, tomatoes
Zineb	7	Apples, pears, quinces, cherries, cranberries, gooseberries, grapes, peaches, nectarines, raspberries, blackberries, loganberries, strawberries, beans, black-eyed peas, beets, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, celery, cucumbers, eggplants, endive, escarole, kale, collards, lettuce, melons, mushrooms, onions, parsley, peanuts, peas, peppers, pumpkins, radishes, salsify, squash, Swiss chard, tomatoes, turnips
Ziram	7	Apples, pears, quinces, apricots, blueberries (huckleberries), cherries, cranberries, gooseberries, grapes, peaches, nectarines, raspberries, blackberries, loganberries, beans, black-eyed peas, beets, broccoli, cabbage, brussels sprouts, kohlrabi, cauliflower, carrots, celery, cucumbers, eggplants, kale, collards, lettuce, melons, onions, parsnips, peas, peppers, pumpkins, radishes, squash, tomatoes, turnips

# Proposed Rule Making

Here's an abridged version of the proposed regulations under the Miller pesticide chemicals amendment (Public Law 518) which appeared in the October 20, 1954, Federal Register:

### Tolerances and Exemptions From Tolerances for Pesticide Chemicals on Raw Agricultural Commodities

#### Notice of proposed rule making

Notice is given that the Secretary of Health, Education, and Welfare, in accordance with the Federal Food, Drug, and Cosmetic Act, as amended, hereby offers an opportunity to all interested persons to submit their views in writing and to request a hearing on them to the Hearing Clerk, Department of Health,

Education, and Welfare, Room 5440, 330 Independence Avenue SW., Washington 25, D. C., within sixty days from the date of publication of this notice in the *Federal Register*, upon the proposed regulations set forth below:

#### §120.1 Definitions and interpretations.

(e) Raw Agricultural Commodities include, among other things, fresh fruits whether or not they have been washed and colored or otherwise treated in their unpeeled natural form; vegetables in their raw natural state whether or not they have been stripped of their outer leaves, waxed, prepared into fresh green salads, etc.; grains, nuts, eggs, raw milk,

meats, and similar agricultural produce. It does not include foods which have been processed, fabricated, or manufactured by cooking, freezing, dehydrating or milling.

(f) Where raw agricultural commodities bearing residues within a tolerance permitted under section 408 are used, the processed foods will not be considered unsafe within the meaning of section 406 if:

(1) The poisonous or deleterious pesticide residues have been removed to the extent possible in good manufacturing practice, and

(2) The concentration of the pesticide in the preserved or processed food when ready to eat is not greater than the tolerance permitted on the raw agricultural commodity.

§ 120.2 Pesticide chemicals considered unsafe. (a) In general pesticide chemicals are not generally recognized as safe for use, for the purposes of section 408 (a),



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the development of Clarkdale?*

**ERLE P. HALLIBURTON**

CLARKDALE, ARIZONA

Dear Mr. Industrialist:

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Hard working, substantial people -- good people -- make up the town of Clarkdale. They appreciate their good schools, library, public park, community center, and enjoy the nearby fishing, hunting, riding and golf. A well-staffed, endowed hospital serves this area. Modern homes are available through FHA financing or on rental basis.

All of Clarkdale and its surrounding 4,000 acres is owned by a single individual -- making negotiations simple and direct.

Truly, Clarkdale is a wonderful place in which to live, work and be happy. I invite your inquiry.

Sincerely,

*Erle P. Halliburton*  
Erle P. Halliburton

except sulfur, lime, and lime sulfur.

(b) Upon written request, the Pesticide Branch will advise interested persons whether a pesticide chemical should be considered as poisonous or deleterious, or one not generally recognized by qualified experts as safe.

§ 120.3 *Tolerances for related pesticide chemicals.* (a) Pesticide chemicals which cause related pharmacological effects will be regarded, in the absence of evidence to the contrary, as having an additive deleterious action. (For example, pesticide chemicals within each of the following groups have related pharmacological effects: Many chlorinated hydrocarbons, arsenic-containing chemicals, metallic dithiocarbamates, many organic phosphates).

(b) Tolerances established for such related pesticide chemicals may limit the amount of a common component such as  $As_2O_3$  which may be present, or may limit the amount of biological activity such as cholinesterase inhibition which may be present, or may limit the total amount of related pesticide chemicals such as chlorinated hydrocarbons which may be present.

§ 120.4 *Certification of usefulness and residue estimate.* The time period for the Department's consideration of a petition will not begin to run until the Secretary of Agriculture certifies that the pesticide chemical involved is useful and gives an opinion as to the residue likely to be present in or on a raw agricultural commodity when a pesticide chemical is used in the manner proposed. The tolerance thereafter established ordinarily will not exceed the amount of residue estimated to remain.

§ 120.5 *Zero Tolerances.* A zero tolerance means that no amount of the pesticide chemical remains on the raw agricultural commodity when it is offered for shipment. A zero tolerance for a pesticide chemical on a raw agricultural commodity may be established because, among other reasons:

(a) A safe level of the pesticide chemical in the diet of two different species of warm blooded animals has not been reliably determined.

(b) The chemical is carcinogenic, or has other alarming physiological effects, to one or more of the species of the test animals used when fed in the diet of such animals.

(c) The pesticide chemical is toxic but is normally used at times when, or in such manner that, fruit, vegetables, or other raw agricultural commodities will not bear or contain it.

(d) All residue of the pesticide chemical is normally removed through good agricultural practice such as washing or brushing or through weathering or other changes in the chemical itself.

§ 120.6 *Exemptions from the requirement of a tolerance.* (a) An exemption from a tolerance shall be granted when it appears that the total quantity of the pesticide chemical in or on all raw agricultural commodities for which it is useful under conditions of unrestricted use will involve no hazard to the public health.

(b) When applied to growing crops, in accordance with good agricultural practice, the following pesticide chemicals are

exempt from the requirement of a tolerance:

(1) The following copper compounds: Bordeaux mixture, copper acetate, copper carbonate, basic (malachite green), copper-lime mixtures, copper oxychloride, copper silicate, copper sulfate, basic, copper-zinc chromate, cuprous oxide.

(2) N-Octylbicyclo (2,2,1)-5-heptene-2,3-dicarboximide).

(3) Petroleum oils.

(4) Piperonyl butoxide.

(5) Piperonyl cyclonene.

(6) N-Propyl isome.

(7) Pyrethrum and pyrethrins.

(8) Rotenone or derris or cube roots.

(9) Ryonia.

(10) Sabadilla.

These pesticides are not exempted from the requirement of a tolerance when applied to a crop at time of or after harvest.

§ 120.7 *Petitions proposing tolerances or exemptions for pesticide residues on raw agricultural commodities.* (a) Petitions to be filed with the Department under provisions of section 408 (d) shall be submitted in duplicate to Pesticide Branch. The petition shall be accompanied by an advance deposit for fees prescribed in § 120.33. The petition shall state petitioner's mail address to which notice of objection under section 408 (d) (5) may be sent.

(c) A petition shall not be accepted for filing if any of the data prescribed by section 408 (d) are lacking or are not set forth so as to be readily understood, nor until any sample of the pesticide chemical requested by the Department has been furnished. Data in a petition entitled to protection as a trade secret will be held confidential and not revealed unless it is necessary to do so in administrative or judicial proceedings under section 408.

(d) The Pesticide Branch shall notify applicant of acceptance or non-acceptance of a petition and if not accepted the reasons therefor. Copy of the notice shall be sent to the Plant Pest Control Branch, Department of Agriculture. If accepted the date of notification becomes the date of filing for the purposes of section 408 (d) (1). If applicant desires he may supplement a deficient petition after notification as to deficiencies. If the supplementary material or explanation of petition is deemed acceptable, petitioner shall be notified and date of such notification becomes the date of filing. There shall be published in the *Federal Register* a notice of filing, together with date of filing, name of petitioner and a brief outline of the petition, including description of analytical method or reference to publication in which it appears if such publication is generally available.

(e) The Department shall specify in its request for a sample of the pesticide chemical, a quantity which it deems adequate to permit tests of analytical methods used to determine residues of the pesticide chemical, and of methods proposed by the petitioner for removing any residues of the chemical which exceed the tolerance he proposes.

(f) In case the method described for the determination of pesticide residues appears of doubtful suitability for the purpose proposed, the petition may be accepted and published but later rejected

or held in abeyance if trials of the method confirm the fact that it is unsuitable.

(g) The date of receipt from the Secretary of Agriculture of certification as to usefulness shall be the date used for computing the ninety-day limit for the purposes of section 408 (d) (2).

§ 120.8 *Withdrawal of petitions without prejudice.* In some cases the Pesticides Branch or an advisory committee to which the petition has been referred, will notify the petitioner that the petition, while technically complete, is inadequate to justify the establishment of a tolerance or the tolerance requested by petitioner. This may be due to the fact that the data are not sufficiently clear or complete. In such cases, the petitioner may withdraw the petition pending its clarification or the obtaining of additional data. This withdrawal may be without prejudice to a future filing. Upon refile, the time limitation will begin to run anew from the date of refile and a deposit for fees as specified in § 120.33 shall accompany the resubmission of the petition.

§ 120.9 *Substantive amendments to petitions.* After a petition has been filed, or referred to an advisory committee, the Petitioner may submit additional information or data in support thereof, but in such cases the petition will be given a new filing date or a new initial date of consideration by the advisory committee, and the time limitation will begin to run anew.

§ 120.10 *Referral of petition to advisory committee.* (a) If within the prescribed period a person filing a petition requests that the petition be referred to an advisory committee, he shall make such request in writing to the Commissioner and forward with such request an advance deposit for fees prescribed by § 120.33.

(b) In case the Commissioner on his own initiative deems it necessary to refer a petition to an advisory committee, he shall so advise the person filing the petition in writing.

§ 120.11 *Appointment of advisory committee.* (a) Whenever the referral of a petition or proposal to an advisory committee is requested or the Commissioner otherwise deems such referral necessary the Commissioner will request the National Academy of Sciences to select qualified experts, including at least one representative from land-grant colleges, willing to serve on the advisory committee. All such experts shall have had sufficient training and experience in biology, medicine, physiology, toxicology, pharmacology, veterinary medicine, or other appropriate science to evaluate the safety of pesticide chemicals. The Department will request the National Academy of Sciences, when it furnishes the names of such experts to furnish a biographical sketch showing the background of their experience and their connection, if any, with academic and commercial institutions. Such experts in the employ of land-grant colleges shall be considered as representatives from land-grant colleges.

(b) Each advisory committee shall consist of not less than three experts, at least one of whom is from a land-grant college. The Commissioner may specify a larger number to serve. He shall appoint one member of the com-



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mittee as chairman and the chairman shall be the spokesman of the committee for receiving and forwarding reports, and other functions of the committee.

§ 120.12 *Procedure for advisory committee.* (a) The Commissioner shall submit to the chairman of the committee the petition for tolerances together with certification by the Secretary of Agriculture and such other relevant reliable information as may be available. When the Commissioner submits a proposal to an advisory committee on his own initiative, he shall advise the petitioner and furnish him copies of material, other than the petition and certification, which is furnished the committee. The chairman of the committee shall acknowledge receipt of information and readiness of the committee to act and the date of such acknowledgment shall be considered the beginning of period allowed for consideration by the committee. Copy of this acknowledgment shall be forwarded to the petitioner by the chairman of the committee.

(c) As soon as practicable but not later than sixty days after acknowledging receipt of proposal or petition (unless the time has been extended as provided in paragraph (d) of this section), the chairman shall certify to the Commissioner the report of the committee including any minority report, and shall return the petition for tolerances and certification by the Secretary of Agriculture. The report will include copies of all relevant material considered by the committee, except that in the case of scientific literature readily available in scientific libraries proper reference can be made to it instead of furnishing actual copies. The report of the advisory committee shall be available for inspection by any interested person after a tolerance or exemption resulting from the petition is published.

(d) If at any time within sixty days the chairman believes the advisory committee needs more time, he shall so advise the Commissioner in writing in which case he shall make the certification contemplated by section 408 (d) (3) of the act within the additional thirty days.

(e) The date of receipt of the committee report will be the date for computing time for the Commissioner to act for the purposes of both section 408 (d) (3) and 408 (e).

(f) The chairman of the committee after consultation with the committee members will advise the National Academy of Sciences of the committee's opinion as to the member who may best represent the committee at a hearing, if one occurs.

(g) More than one petition or proposal may be handled by a committee concurrently.

(h) Persons authorized under section 408 (h) to discuss proposals or petitions with the committee shall notify the chairman and if practicable make appointments through him. The report of the committee shall show the names of persons other than committee members discussing proposals or petitions with the committee. Except for discussions with authorized persons the committee shall not disclose data originating with a petitioner prior to publication of a regulation.

§ 120.13 *Objections to regulations and*

*requests for hearings.* (a) Objections under section 408 (d) (5) shall be submitted in quintuplicate to the Hearing Clerk of the Department. Each objection to a provision of the regulation shall be separately numbered.

(b) A statement of objections shall not be accepted for filing if:

(1) It fails to establish that the objector is adversely affected by the regulation; or

(2) It does not specify with particularity the provisions of the regulation to which objection is taken; or

(3) It does not state reasonable grounds for each objection raised. Grounds which it is reasonable to conclude are capable of being established by reliable evidence at the hearing and which if proved would call for changing the provisions specified in the objections will be deemed reasonable grounds.

(c) If the statement of objections may not be filed, the Commissioner shall advise the objector of the reasons.

(d) If objections to a regulation issued pursuant to a petition are filed by a person other than the petitioner, the Food and Drug Administration shall send a copy of the objections by registered mail, return receipt requested, to the petitioner at the address given in the petition. Petitioner shall have 2 weeks from the date of receipt of the objections to make written reply.

§ 120.14 *Public hearing, notice.* (a) If the objections and statements filed by any person, when they are considered with the record in the proceeding, including any reply to the objections which the petitioner may have filed, show that the person filing the objections is adversely affected and that the grounds stated in support of the objections are reasonable, the Commissioner shall cause to be published in the *Federal Register* a notice reciting the objections and announcing a public hearing to receive evidence on them. The notice shall designate the place where the hearing will be held, specify the time within which appearances must be filed, and specify the time, not earlier than thirty days after the date of the notice, when the hearing will start. The hearing shall convene at the place and time announced in the notice but thereafter it may be moved to a different place and may be continued from day to day or recessed to a later day without other notice than announcement thereof by the presiding officer at the hearing.

§ 120.15 *Presiding officer.* The hearing shall be conducted by a presiding officer, who shall be a hearing examiner appointed as provided in the Administrative Procedure Act and designated by the Secretary for conducting the hearing.

§ 120.16 *Parties, burden of proof, appearances.* At the hearing, the person whose objections raised the issues to be determined shall be, within the meaning of section 7 (c) of the Administrative Procedure Act, the proponent of the order sought, and accordingly shall have the burden of proof. Any interested person shall be given an opportunity to appear at the hearing, either in person or by his authorized representative, and to be heard with respect to matters relevant to the issues raised by the objections.

§ 120.18 *Submission of documentary evidence in advance.* (a) All documentary

evidence which is to be offered at the hearing shall be submitted to the presiding officer and to the parties sufficiently in advance of the offer of such documentary evidence for introduction into the record to permit study and preparation of cross-examination and rebuttal evidence.

(b) The presiding officer after consultation with the parties at a conference shall make an order specifying the time at which documentary evidence shall be submitted. He shall also specify in his order the time within which objection to the authenticity of such documents must be made to comply with paragraph (d) of this section.

(c) Documentary evidence not submitted in advance in accordance with the requirements of paragraphs (a) and (b) of this section shall not be received in evidence in the absence of a clear showing that the offering party had good cause for his failure to produce the evidence sooner.

(d) The authenticity of all documents submitted in advance shall be deemed admitted unless written objection thereto is filed with the presiding officer upon notice to the other parties within the time specified by the presiding officer in accordance with paragraph (b) of this section, except that a party will be permitted to challenge such authenticity at a later time upon a clear showing of good cause for failure to have filed such written objection.

§ 120.27 *Proposed order.* As soon as practicable after the time for filing written arguments has ended the Commissioner shall prepare and cause to be published in the *Federal Register* a proposed order which shall incorporate findings of fact, recommend decisions on the objections which were the subject of the hearing and a tentative regulations. The proposed order shall specify a reasonable time, ordinarily not to exceed 30 days, within which any interested person may file exceptions. The exceptions shall point out with particularity the alleged errors in said proposed order, and shall contain a specific reference to the pages of the transcript of the testimony or to the exhibits on which each exception is based. Such exceptions may be accompanied by a memorandum brief.

§ 120.28 *Final order.* As soon as practicable after the time for filing exceptions has passed, the record and the exceptions shall be presented to the Secretary and he shall cause to be published in the *Federal Register* his final order promulgating the regulation.

§ 120.29 *Adoption of tolerance on initiative of the Secretary or on request of an interested person.* (a) Upon the request of an interested person (other than a person who has registered or who has submitted an application for the registration of an economic poison under the Federal Insecticide, Fungicide, and Rodenticide Act) furnishing reasonable grounds therefor, and upon advance deposit to cover fees as prescribed in § 120.33, the Commissioner shall propose the issuance of a regulation establishing a tolerance for a pesticide chemical or exempting it from the necessity of a tolerance. Reasonable grounds shall include an explanation showing wherein the person has a substantial interest in such a tolerance or exemption

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from tolerance, information, if available, as to why registrant of the pesticide chemical under the Federal Insecticide, Fungicide, and Rodenticide Act has not petitioned for a tolerance or exemption from tolerance and adequate data on subjects outlined in clauses A, B, C, D, E, and F of section 408 (d) (1).

(b) The notice of the proposal shall show whether it is made on initiative of the Commissioner or at the request of an interested person, naming such person.

(c) If within thirty days after publication of the proposal a person who has registered, or who has submitted an application for registration of an economic poison under the Federal Insecticide, Fungicide, and Rodenticide Act containing the pesticide chemical named in the proposal, requests in writing that the proposal be referred to an advisory committee and makes advance deposit to cover fees as provided by § 120.33, the Commissioner shall appoint a committee as provided in § 120.11 and refer the proposal and relevant data to such committee. The Department and the committee shall proceed as prescribed in section 408 and this part.

§ 120.30 *Judicial review.* (a) The Secretary of Health, Education, and Welfare hereby designates the Assistant General Counsel for Food and Drugs of the Department of Health, Education, and Welfare as the officer upon whom copy of petition for judicial review shall be served. Such officer shall be responsible for filing in the court a transcript of proceedings and the record on which the order of the Secretary of Health, Education, and Welfare is based. The transcript and record shall be certified by the Secretary.

(b) Before forwarding the transcript and record to the court the Department shall advise the petitioner of costs of preparing it and as soon as payment to cover fees is made shall forward the transcript of proceeding and record to the court.

§ 120.31 *Temporary tolerances.* (a) A temporary tolerance (or exemption from a tolerance) established under authority of section 408 (j) of the act shall be deemed to be a tolerance (or exemption from the requirement of a tolerance) for the purpose of section 408 (a) (1) of the act.

(b) (1) A request for a temporary tolerance or a temporary exemption from a tolerance by a person who has obtained an experimental permit for a pesticide chemical under the Federal Insecticide, Fungicide, and Rodenticide Act shall be accompanied by a copy of such experimental permit, and such data as are available on subjects outlined in clauses A, B, C, D, E, F and G of section 408 (d) (1) and an advance deposit to cover fees as provided in § 120.33.

(2) Before an experimental permit has been obtained, the Pesticide Branch upon request of the Department of Agriculture or a person who proposes to apply for an experimental permit will consider available data and discuss its adequacy for the purpose of justifying a tolerance or exemption from a tolerance.

(c) A notice of the issuance of a temporary tolerance outlining any additional restrictions as to use of the chemical imposed under the experimental permit

under the Federal Insecticide, Fungicide, and Rodenticide Act may be published in the *Federal Register* if the Secretary deems such publication desirable.

(d) A temporary tolerance or exemption from a tolerance may be issued for a period designed to allow the orderly marketing of the raw agricultural commodities produced while testing a pesticide chemical under an experimental permit issued under authority of the Federal Insecticide, Fungicide, and Rodenticide Act when the Department concludes that the public health can be adequately protected during such marketing. A temporary tolerance or exemption from a tolerance may be revoked if the experimental permit is revoked, or may be revoked at any time if it develops that the application for a temporary tolerance contains a misstatement of a material fact or that new scientific data or experience with the pesticide chemical indicates that it may be hazardous to the public health.

§ 120.32 *Procedure for amending and repealing tolerances or exemptions from tolerances.* (a) The Commissioner on his own initiative or on request from an interested person furnishing reasonable grounds therefor, shall propose the issuance of a regulation amending or repealing a tolerance for a pesticide chemical on raw agricultural commodities or granting or repealing an exemption from tolerance for such chemical. Requests for such amendment or repeal shall be made in writing and accompanied by an advance deposit to cover fees as provided in § 120.33.

(b) Reasonable grounds shall include an explanation showing wherein the person has a substantial interest in such tolerance or exemption from tolerance and an assertion of facts (supported by data if available), showing that new data are available as to toxicity of the chemical, or that experience with the application of the tolerance, or exemption from tolerance, may justify its amendment or repeal.

(c) The notice announcing the proposal to amend or repeal a regulation shall show whether the proposal was made on the initiative of the Commissioner or at the request of an interested person, naming such person. From this point the proceedings shall be the same as prescribed by paragraph (e) of section 408, beginning with the second sentence of such paragraph, and the regulations applicable to paragraphs (d), (e), (f), and (g) of section 408.

§ 120.33 *Fees.* (a) A \$50.00 nonreturnable fee will be charged for clerical handling and administrative review of each of the following:

(1) Petition or request proposing the issuance of a regulation.

(2) Referral of a petition or proposal to an Advisory Committee.

(b) Except as noted in paragraph (c) of this section each petition or request for the establishment of a tolerance shall be accompanied by a deposit of \$500.00. Of this, \$50.00 is the fee specified in paragraph (a) of this section, and \$450.00 is a fee for considering the petition after it has been filed, or for processing the request. After the petition is filed or processing of the request is started, the \$450.00 fee shall not be returned.

(c) In case a petition or request for the

establishment of a tolerance proposes the extension of a tolerance already established for a pesticide chemical on one raw agricultural commodity to additional raw agricultural commodity or commodities it shall be accompanied by a deposit of \$140.00. Of this \$50.00 is the fee specified in paragraph (a) of this section, and \$90.00 is a non-returnable fee for considering the petition after it has been filed or for processing the request. After the petition is filed or processing of the request is started, the \$90.00 fee shall not be returned.

(d) If a petition is not accepted for filing because it is technically incomplete, the deposit, less cost specified in paragraph (a) of this section shall be returned, unless the petitioner indicates that he wishes to submit a supplement in which case the deposit will be held by the Department and the supplement shall be accompanied by a nonreturnable fee of \$50.00.

(e) (1) In the event of a referral of a petition or proposal under this section to an advisory committee, the costs shall be borne by the person who requests the referral of the data to the advisory committee.

(2) Cost of the advisory committee including expenses of the secretariat will not exceed \$75.00 per member per day plus cost of necessary travel and subsistence of committee members while they are away from their respective places of residence, plus cost of duplicating documents referred to the committee.

(3) An advance deposit shall be made in the amount of \$2500.00 to cover these costs, and the fee specified in paragraph (a) of this section, and further advance deposits of \$2500.00 each shall be made upon request of the Commissioner when necessary to prevent arrears in the payment of such costs. Any deposits in excess of actual expenses will be refunded to the depositor.

(f) When a petition is withdrawn after filing and resubmitted it shall be accompanied by a nonreturnable fee of \$150.00.

(g) After a petition has been filed, any additional information or data submitted in support of it (i. e., any substantive amendment) shall be accompanied by a nonreturnable fee of \$150.00.

(h) Objections under section 408 (d) (5) shall be accompanied by a nonreturnable filing fee of \$250.00.

(i) All deposits and fees required by the regulations in this part shall be paid by money order, bank draft, or certified check drawn to the order of the Food and Drug Administration, collectible at par at Washington, D. C. All deposits and fees shall be forwarded to the Food and Drug Administration, Department of Health, Education, and Welfare, Washington 25, D. C., whereupon after making appropriate records thereof they will be transmitted to the Treasurer of the United States, for deposit to the special account "Certification and Inspection Services, Food and Drug Administration."

(j) The Department may waive or refund such fees in whole or in part when in the Commissioner's judgment such action will promote the public interest.

(k) Any person who believes that payment of these fees will work a hardship on him may petition the Secretary to waive or refund the fees. ♦



# NFA Southern Meeting

## Features Bradfield, Wells

**R**EPRESENTATIVES attending the fall meeting of the National Fertilizer Association on Nov. 10-12 at the Hollywood Beach Hotel, Hollywood, Fla., will hear economist Orvis V. Wells and Dr. Richard Bradfield, Cornell soil technologist. Both speakers will be heard during Friday, Nov. 12th, general session.

### Future Farm Income

Wells, administrator of USDA's Agricultural Marketing Service, who is well known for his ability

to interpret economic situations as they relate to national farm programs, will speak on "Farm Income in the Year Ahead."

The question of the desirability or feasibility of organic matter maintenance in the soil under conditions when chemical fertilizers are available in plentiful supply will be raised by Dr. Bradfield, head of the Cornell Agronomy department. Bradfield has spent many years in research and teaching in the physical chemistry of soils and in colloid chemistry.

Other featured speakers will include NFA President Russell Coleman and E. A. Geoghegan, vice president of NFA's board of directors, who will preside at all sessions. Coleman is to report on current and planned activities of the association.

### Premier Showing

The first general session will begin on Thursday, Nov. 11th, and will include the premier showing of NFA's two new motion pictures in addition to President Coleman's address. The sound and color films are entitled "Weather or Not" and "The Big Test." It is anticipated that members will get their first look at the new book being published by NFA in cooperation with the American Society for Horticultural Science, "The Care and Feeding of Garden Plants."

### Recreation

Formal convention sessions will end at noon each day and a full program of recreational activities is available. A "Shopping Special" to Lincoln Road, Miami Beach, will be provided for the ladies on Thursday afternoon.

A cocktail party sponsored by H. J. Baker & Bro. will precede the convention banquet on Thursday evening, and an aquatic show in the swimming pool and on the cabana terrace with dancing will follow the event.

A luncheon and business meeting of the board of directors will open the convention on Wednesday, Nov. 10. A buffet luncheon and fashion show is planned for the ladies the same day.

Heading the Hospitality committees are Mr. and Mrs. C. C. Shaw, Hector Supply co. ♦

## NFA Convention Program

### TUESDAY, NOV. 9

8:00 p.m. Registration begins

### WEDNESDAY, NOV. 10

9:00 a.m. Registration

12:30 p.m. Luncheon and Business meeting—Board of Directors.

12:30 p.m. Ladies' Buffet Luncheon and Fashion Show.

Afternoon & Evening No formal program. Reserved for recreational activities.

### THURSDAY, NOV. 11

10:00 a.m. GENERAL SESSION—E. A. Geoghegan, vice president, Southern Cotton Oil co., and NFA board chairman, presiding.

Invocation—The Rev. Robert Excell Frey, pastor, First Presbyterian Church, Hollywood, Fla.

Annual Report—Russell Coleman, NFA president.  
Premier Showing of New NFA Motion Pictures.  
Business Meeting.

2:00 p.m. Ladies' "Shopping Special" to Lincoln Road, Miami Beach.

6:00 p.m. Cocktail Party—Courtesy of H. J. Baker & Bro.

7:00 p.m. Convention Banquet.

9:15 p.m. Aquatic Show followed by dancing.

### FRIDAY, NOV. 12

10:00 a.m. GENERAL SESSION—Chairman E. A. Geoghegan presiding.

Address: "Organic Farming with Chemical Fertilizers," Dr. Richard Bradfield, head, Dept. of Agronomy, Cornell University.

Address: "Farm Income in the Years Ahead," Oris V. Wells, administrator, Agricultural Marketing Service, USDA.

12:00 noon Adjournment.

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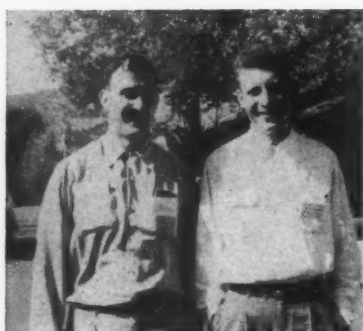
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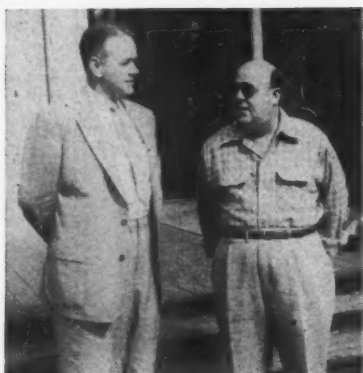
# Pacific Northwest Group Holds Annual Convention



**T**HE annual convention of the Pacific Northwest Plant Food Association, held at Sun Valley, Ida., on Oct. 5-7, drew approximately 200 representatives of fertilizer manufacturers and prime suppliers.

A barbecue dinner and dance on the evening of the 5th started the affair, and business sessions began the following morning.

**Lew Hildelvandt and Don Burlingham, Woodburn Feed and Supply.**



**LEFT: Ross Hughes, Meeker-Hughes co. and Fred Bauer, St. Regis Paper co. RIGHT: Henning Waltersdorph, Magnolia Fertilizer co. and Fred Parcher, Nulife Fertilizers, and a director of Pacific N. W. Plant Food Assn.**



**LEFT: C. L. Nicklas, St. Regis Paper company. CENTER: Leck Rowden, Bemis Brothers Bag company. RIGHT: Ed Asbill, Wilbur-Ellis company.**



Howard Gramlich, director of agriculture, Chicago and Northwestern railroad, Chicago, spoke to delegates on the declining acreage now being planted in crops. He pointed out that 50 years ago 85 per cent of our population was engaged in agricultural activity, work accomplished today by 15 per cent. This, Gramlich emphasized, makes it necessary to concentrate on larger per acre yields and opens a rapidly expanding field for the fertilizer industry.

## General Petroleum Plant

James Jackson, public relations director for General Petroleum co., Los Angeles, outlined to the association construction of his company's new \$40 million plant at Ferndale, Wash.

Also on the program were Joe Culpepper, general sales manager and vice president, Spencer Chemical co., Kansas City, Mo., and Jack Hood, Washington Bankers Association.

The annual banquet, presided over by Sid Martin, Yakima Valley Spray co., the in-coming association president, was preceded by an informal cocktail hour.

## Officers & Directors

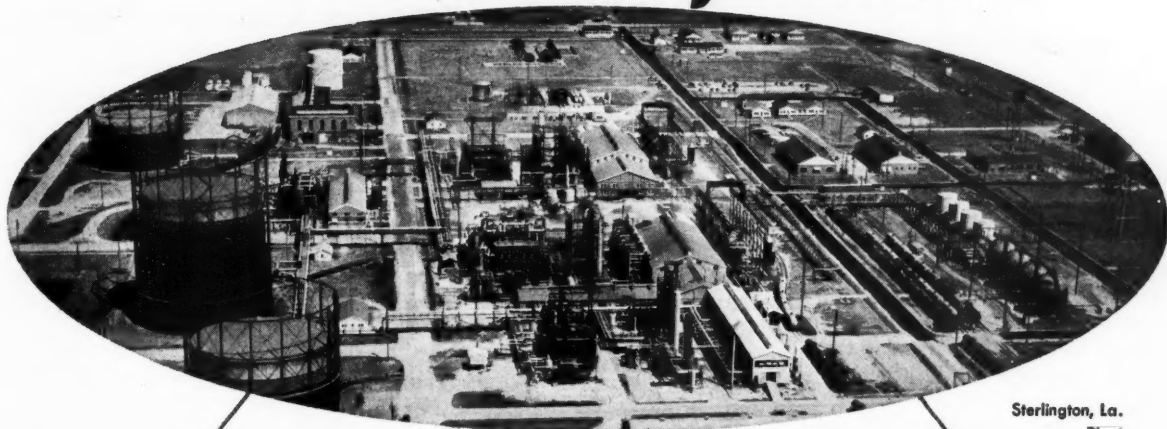
Other new officers, in addition to Martin, include Frank Meeker, Meeker-Hughes co., vice president, and Robert Finch, Swift and company, treasurer.

New directors include Finch and Ben McCollum, J. R. Simplot co. Martin and Meeker were reelected directors of the association and other holdovers include Fred Parcher, Nu-Life Fertilizer co. and Frank Burlingham, Woodburn Feed & Supply co. ♦

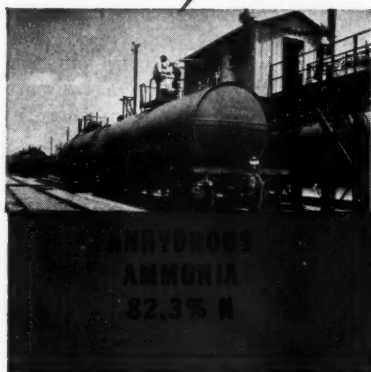


# CSC NITROGEN

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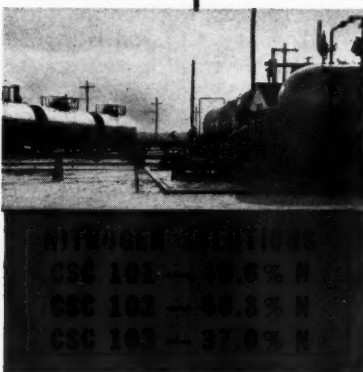


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FERTILIZER  
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NOVEMBER, 1954

NFA's W. R. Allstetter Shows

# Bigger Fertilizer Values

Reviews Clemson Figures,  
S. C. Soybean Prospects

**I**N a talk delivered recently before the South Carolina Plant Food Educational Society, W. R. Allstetter, vice president, National Fertilizer Association, emphasized that fertilizer is more important to the farmer today than during the relatively lush period a few years ago.

Using figures developed by Clemson Agricultural College to illustrate his points, he showed how proper fertilization reduces unit cost of production, that corn growing is a precarious occupation in South Carolina and that there is an excellent opportunity for soybean production in that state.

Here is an edited version of his remarks:

**T**HERE is a two-way relationship between farm profits and fertilizer usage. On the one hand proper fertilizer usage increases farm profits. On the other, farm profits mean the farmer can buy more fertilizer.

In times of good farm prices and good weather everyone is agreed that farm profits and fertilizer usage make a fine team. Each helps the other. However, some people have raised a question about the desirability of heavy fertilizer usage when conditions are less than ideal.

In South Carolina, farmers have suffered seriously from dry weather, and the outlook is clouded by farm surpluses, acreage limitations, cross compliance and an uncertain crop price prospect.

In view of these complications it might be well for us to take another look at the fertilizer-farm

profit relationship as it applies to South Carolina conditions today.

Clemson College authorities have supplied us with detailed data on what yield increases might mean in terms of production costs and profits per acre to the grower. The college people have shown us again that as yields go up, profits rise even faster. This is because certain fixed costs have to be charged against a crop whether the yield is high or low. Cotton is a good example. Average fixed costs for



W. R. Allstetter

producing cotton are estimated by Clemson College to be \$45.22 per acre, whether the yield is one-half bale or a bale-and-a-half per acre.

The difference between corn and cotton is that in South Carolina corn is a much less profitable crop at either the low or the high level of fertilization. At average yields, corn production in S. C. is a losing

proposition if interest on investment and labor are deducted.

Even when it is grown according to college recommendations, most farmers won't get rich from corn, at least without irrigation.

The fact that over 1,200,000 acres of S. C. land are planted to corn is food for thought.

Soybeans present quite another picture. Planted this year on only 182,000 acres, soybeans appear to have great profit possibilities. They respond well to fertilizer in this state. Top yields here compare favorably with those anywhere in the nation.

What about surpluses? Won't these high yields defeat the farm program? What about cross compliance, under which the total acreage in cash crops is limited? Won't these restrict the raising of adapted crops such as soybeans?

## Theoretic Solutions

I don't have the knowledge and you don't have the time for a complete discussion of those complications. I do, however, have some data from Clemson College which indicate that, at least theoretically, there are solutions to some of these difficulties.

Take cotton, for instance. South Carolina harvested 1,175,000 acres of cotton in 1953 and 870,000 acres in 1954. In 1953 the total crop amounted to 695,000 bales. Clemson estimates indicate a profit of \$18 million with cotton at \$.329 per pound.

What would happen if the acreage was slashed to 400,000 and at the same time college-recom-

FARM CHEMICALS

mended fertilization and other practices were applied to every acre? The total output would drop 38 per cent to 400,000 bales. This would help the "surplus" situation. But instead of hurting the profit picture, the change would help it.

The profit would increase 22 per cent to \$22 million. Of course, we are talking about a theoretical ideal here. But if these figures are correct, even under ideal conditions, then they set up worthwhile goals.

### Growing Soybeans

How about soybeans? Certainly soybeans are not in surplus. When I last looked, November futures were selling for \$2.75 per bushel. It looks as if South Carolina farmers would be fully justified in planting more soybeans. I gather that is what the people up at Clemson believe.

So, let us compare the profit picture for the present 182,000 acres growth under average conditions; with that for 400,000 acres grown according to college recommendations: Production would shoot up over 600 per cent, to 14,000,000 bushels. Profits would rise from \$1,115,000 to \$19,000,000. Profits per acre would compare favorably with those derived from cotton.

### Proper Fertilization

These Clemson college data indicate that proper fertilization is the cornerstone of a sound farm program today in South Carolina. Occasionally the suggestion is made that the way to cure the surplus problem is to quit using fertilizer . . . It is nonsensical to suggest that farm problems should be solved by cutting efficiency.

A more realistic approach is to encourage more efficient production so that the farmer can make more money per bale, bushel or ton. If he receives a higher profit for each unit he produces, obviously he can maintain or even increase his income with the production of less units.

In achieving lower unit costs and higher efficiency, fertilizer is an indispensable tool. Strictly speaking, fertilizer is more important to the farmer today than it was in the lush period three to six years ago. ♦

NOVEMBER, 1954

## Allstetter stresses that fixed cotton growing costs must be paid regardless of yields. . . .

LAND CHARGE	\$ 5.00
MAN LABOR	16.50
TRACTOR COST	12.56
SEED	3.00
POISON	5.40
OTHER MACHINERY COST	1.76
TAXES, INSURANCE, ETC.	1.00
TOTAL FIXED COST PER ACRE	\$45.22

Prepared by Clemson College, NFA Cooperating

## and shows cotton costs and profits for a typical operation in South Carolina.

	LOW FERTILIZATION	RECOMMENDED FERTILIZATION
FIXED COST PER ACRE	\$ 45.22	\$ 45.22
FERTILIZER COST PER ACRE	\$ 14.75	\$ 27.25
PICKING COST PER ACRE	\$ 28.00	\$ 47.90
GINNING COST PER ACRE	\$ 3.49	\$ 9.40
INTEREST PER ACRE	\$ 1.70	\$ 2.79
TOTAL COST PER ACRE	\$ 95.16	\$ 132.54
YIELD IN LINT PER ACRE	292 LBS.	500 LBS.
VALUE OF LINT PER ACRE	\$ 96.07	\$ 164.50
NET COST (COSTS LESS VALUE OF SEED)	\$ 80.56	\$ 107.56
PROFIT PER ACRE	\$ 15.51	\$ 56.94
COST PER LB. OF LINT COTTON	\$ .28	\$ .22

LINT @ \$.329 LB. SEED @ \$30.00 TON.

Prepared by Clemson College, NFA Cooperating

## Corn growing in S. C., he adds, is a tough proposition. . . .

	FERTILIZER COST	FIXED COSTS	TOTAL COST	YIELD	VALUE OF CROP	PROFIT	COST PER BUSHEL
LOW RATE FERTILIZATION	\$8.40	\$17.13	\$33.32	21.8 bu.	\$32.70	-\$6.2	\$1.53
RECOMMENDED RATE FERTILIZATION	\$22.50	\$17.13	\$58.02	50 bu.	\$75.00	\$16.98	\$1.16

\*CORN @ \$1.50 bu.

Prepared by NFA, data from Clemson College

## while soybeans, properly grown, offer a big opportunity to farmers in that state.

	FERTILIZER COST	OTHER COSTS	TOTAL COST	YIELD	VALUE OF CROP	PROFIT	COST PER BUSHEL
AVERAGE FERTILIZER RATE	\$5.00	\$16.01	\$21.01	11.8 bu.	\$27.14	\$6.13	\$1.78
RECOMMENDED FERTILIZER RATE	\$10.00	\$21.89	\$31.89	35 bu.	\$80.50	\$48.61	\$ .91

SOYBEANS @ \$.230 bu

Prepared by NFA, data from Clemson College



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- 7 Actually seals material inside bag automatically.
- 8 Minimizes sifting in handling.
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FARM CHEMICALS

# Check the Foreign Market

## How to Get Information On Supplying FOA Bids

**L**AST month FARM CHEMICALS, Washington editor, John Harms, reported on a change in policy by the Foreign Operations Administration designed to aid domestic fertilizer producers in bidding with foreign competition on a more equal footing for foreign aid contracts.

US producers can now quote bids for shipment on both American and foreign flag ships with the agency committed to equalize freight rates when a domestic concern is obliged to use US vessels. In the past foreign bidders had an advantage in the bidding because of lower freight rates although their figures on the actual materials supplied were often higher than those from American companies.

Under the new ruling, bids will continue to be awarded on the basis of the lowest landed cost to the government with the exception that the lowest of the two bids submitted by a US producer will be used in settling the award.

Because of the resulting increased interest in FOA contracts now evident, FARM CHEMICALS presents a series of questions and answers relating to the operation of FOA, its Office of Small Business and the Contract Clearing House Service. This is aimed at aiding you in obtaining information related to FOA financed foreign purchasing.

### **How does FOA financed procurement take place?**

Generally through five methods: US government agencies; foreign government agencies abroad and in the US; private investors abroad; US Operations Missions in foreign countries and, on some large pro-

jects, through private contractors.

For general information on FOA purchasing get a copy of "FOA Financed Commodity Procurement," a small booklet, from the Foreign Operations Administration, Washington 25, D. C.

### **What is the purpose of FOA's Office of Small Business?**

It is required to inform US firms of proposed purchases with FOA funds and, by offering additional services, is supposed to give small business better opportunities to participate in FOA trade.

### **How do we make known the fact that we desire to make an investment abroad or wish to obtain a licensee abroad?**

Write to the OSB for the necessary form. Address Office of Small Business, Foreign Operations Administration, Washington 25, D. C. Information will be distributed without charge to all free countries of the world in which the Contact Clearing House Service operates. (Now in 16 countries plus British dependencies.)

### **We wish to deal with foreign buyers. Are there lists of foreign prospects available?**

World Trade Lists, published by the Department of Commerce and available from the department's field offices or its Bureau of Foreign Commerce, Washington 25, provides data on such firms, their country and commodity. This department also has a World Trade Directory and publishes the Foreign Commerce Weekly.

### **How do we get information on the export market for our products?**

Communicate with the nearest

Department of Commerce field office or write directly to the Office of Intelligence and Services, Bureau of Foreign Commerce, Dept. of Commerce, Washington 25. Use the same contacts for information on proposals of foreign firms seeking a US investment.

### **How do we get on the mailing list to receive Small Business Circulars and Memos which report on trade opportunities in cooperating countries?**

Obtain and submit a mailing list request form with the OSB.

### **Where can we find FOA representatives, outside of Washington, to discuss trade matters?**

There are 740 Field Counselors in the OSB. Write to this office for a roster of counselors in your state.

### **Can we obtain a directory of government buying agencies.**

Yes. For 50 cents from the Superintendent of Documents, US Government Printing House, Washington 25. Ask for the US Government Purchasing Directory.

### **How do we get information on FOA procurement authorizations?**

By completing the mailing list request form of the Office of Public Reports, FOA, Washington 25.

### **Can a copy of FOA regulations be obtained?**

Yes. Ask for a copy of Regulation 1.

### **Where do we obtain information on purchases by the General Services Administration?**

Address the Business Service Center, GSA Regional Office Bldg.,

Rm. 7110, 7th & D Sts., SW, Washington 25, stating specifically the items you wish to supply.

#### **What is the Contact Clearing House Service?**

It is an agency designed solely to place US and foreign concerns or individuals in direct communication to explore possible investment arrangements. Information is distributed abroad through a network of some 6,000 cooperating field counselors. It publishes in the US proposals from abroad, and overseas it releases specific proposals from American concerns. Obtain the "Contact Clearing House Service" bulletin from OSB for detailed information.

**Where can we obtain a list of foreign government purchasing agents located in the United States?**

From any Department of Commerce field office or from Commercial Intelligence, Bureau of Foreign Commerce, Department of Commerce, Washington 25, for 10 cents a copy, no stamps.

#### **Are there any publications reporting on procurement through bidding by US agencies?**

Yes. The daily "Synopsis of US Government Proposed Procurement and Contract Awards." Subscriptions can be entered at any Department of Commerce field office for \$7.00 a year.

#### **Who can supply additional information on payment procedure, payment of commissions and other questions on FOA regulations?**

The FOA Controller in Washington.

#### **Where can we obtain information on marking requirements for FOA financed shipments?**

The Labeling Section, Accounts division, FOA, in Washington.

#### **Who should be contacted for questions concerning investment guarantee provisions of the Mutual Security Act rather than the Contact Clearing House Service?**

The Office of Trade Investment and Monetary Affairs, FOA, Washington.

#### **Where is the Office of Small Business located in Washington?**

In Room 338, 815 Connecticut Ave.; Telephone Sterling 3-6400, extension 2356. ♦

## **Calif. Fert. Meeting**

### **New Film to be shown At 31st CFA Convention**

**A** NUMBER of outstanding speakers are scheduled to address the California Fertilizer Association during its 31st annual convention on Nov. 15 and 16 at the Hotel del Coronado, Coronado, Calif. An attendance of 400 delegates is anticipated.

Featured on the program will be the first public showing of CFA's new color and sound film "California Grows with Fertilizer." It will be presented by Virgil A. Frissell, chairman, Motion Picture sub-committee of CFA's Soil Improvement committee.

#### **Address by Wilcox**

Featured speaker will be Francis R. Wilcox, assistant general manager and treasurer, Sunkist Grow-

ers, who will present "An Appraisal of World Conditions as They Affect California Agriculture."

#### **APFC-NFA Reps**

Representatives of the two national fertilizer groups will also address the delegates, Paul T. Truitt, APFC head, on "Fertilizer Facilities and Supply Outlook," and W. R. Allstetter, NFA vice president, on "The Fertilizer Paradox in California." Jesse W. Tapp, vice chairman, board of directors, Bank of America, and a member of two of President Eisenhower's commissions, will speak on the subject, "Role of the Fertilizer Industry in Relation to Agricultural Adjustment Problems."

Also on the program are Allen

B. Lemmon, chief, Calif. State Bureau of Chemistry, who will deliver a "Report on the Year," and M. E. McCollam, western states manager, American Potash Institute, Inc. and chairman, CFA Soil Improvement committee, will report on "Our Place in California Agriculture."

The entire first day of the convention will consist of business sessions and the speakers' addresses, capped by a broiled steak dinner that evening courtesy of Shell Chemical corp., Nitrogen division and Producers Sales co.

#### **Day of Recreation**

Tuesday, Nov. 16 will be set aside entirely for recreation, and a full program is scheduled for delegates and their ladies. The ladies will be guests of the association at a Kona Kai Club luncheon followed by a boat excursion of the entire bay. On the schedule are golf tournaments for men and for women, a women's putting contest, bowling and bridge tournaments.

Cocktail parties will be sponsored by Balfour, Guthrie & co., Ltd. and the American Potash & Chem. corp. The convention will conclude with the annual banquet featuring entertainment and dancing. ♦

FARM CHEMICALS

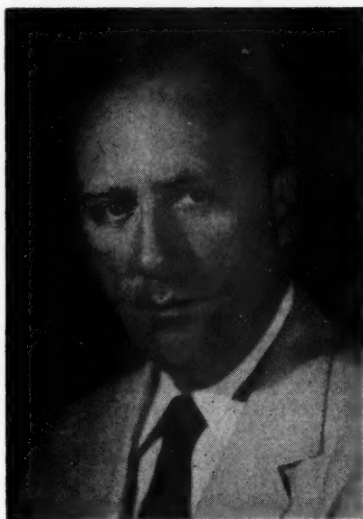


# NSC Fertilizer Section Meets

Sessions Attended by 200

Included Varied Discussions

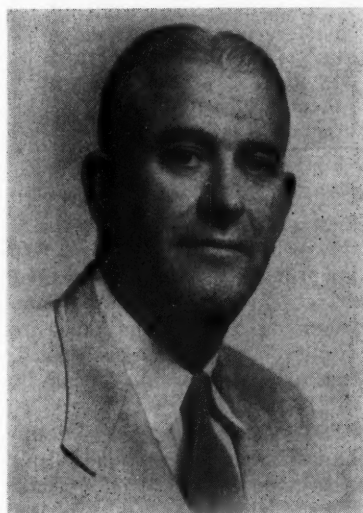
NSC Fertilizer section members elected T. J. Clarke, GLF Soil Building Service, general chairman for the current year, C. A. Cox, Virginia-Carolina, vice chairman and E. O. Burroughs, F. S. Royster Guano, secretary. Former general chairman Vernon S. Gornto was named chairman of the Membership committee and J. Lauren Shopen continues as chairman of public relations.



Tom Clarke



Curtis A. Cox



Vernon S. Gornto



J. Lauren Shopen

**A** WELL rounded program awaited delegates to meetings of the Fertilizer section, National Safety Council, at the National Safety Conference in Chicago on Oct. 17-19. In addition to a number of excellent prepared talks, two "Stump the Experts" symposiums, directed by Tom Clarke, vice-chairman of the section, were especially well received.

In his report to the NSC Industrial conference, Vernon S. Gornto, section chairman, pointed out that the fertilizer group has achieved 12 of the 16 goals outlined in a report submitted earlier this year.

He presented the implemented "Three Year Plan" which was officially adopted by the Executive committee at a meeting held between fertilizer conventions this summer. (See FARM CHEMICALS, August issue, page 51, for an outline of the plan.)

## Membership Growth

Commenting on membership in the section, Gornto said that there are now 60 companies with 210 manufacturing plants currently holding full company memberships in NSC as compared to only 12 a year ago. In addition, 700 companies have a limited membership in the section as a result of blanket memberships arranged by APFC and NFA for their members.

A meeting of the section Executive committee was planned for Sunday, Oct. 17, and included reports by Clarke, Curtis A. Cox, section secretary, Stewart Washburn, NSC staff representative and others. The group discussed proposed radio programs and the question of accepting as members of the section insurance companies writing Workmen's Compensation

insurance, manufacturers of machinery and other interested firms not directly engaged in the fertilizer industry.

Official recognition was given at the meeting to the newly organized Fertilizer section of South Carolina Annual Accident Prevention conference.

### First Program

The program for the first morning of section meetings included reports by Gornito and John E. Smith, chairman of the Nominating committee. Major speakers were Dr. Charles W. Nelson, University of Chicago who has been retained to conduct a motivation study among fertilizer workers, on "Reaching the Worker with the Safety Program;" R. R. Murray, Swift & co., concerning "Visual Aids Tailored for the Fertilizer Plant;" and W. C. Creel, North Carolina Department of Labor, on "A Small Plant Safety Program That Will Work."



Creel

Creel reported on the outstanding job that has been done by his department and North Carolina fertilizer manufacturers in improving plant safety. After

groundwork had been laid for a safety drive in that state a study of reports showed a similar pattern of accident problems and safety needs in most plants visited. These, as outlined by Creel, included inadequate and inaccurate accident records, no assignment of responsibility, no safety committees, poor housekeeping and no genuine interest in accident prevention.

### Pamphlets Used

The drive included special pamphlets sent to plants each month, a portion to the person directly concerned with plant safety in each organization and the rest to plant management with the request that it be given to the person placed in charge of the plants accident prevention program.

After 18 months of the drive, Creel continued, some accomplishments are evident: He stated that

## Guide to First Aid Supplies

As outlined in an NSC Fertilizer section talk presented by W. E. Powell, Liberty Mutual Insurance co.

Item	No. of Employees		
	Under 50	50-100 Quantities	100-200
1" roller gauze bandage	3	6	8
2" roller gauze bandage	3	6	8
1" adhesive bandages	50	50	100
2" elastic bandage	1	1	2
Triangular bandage	1	1	2
1" x 5 yd. roll of adhesive	1	1	1
2" x 5 yd. roll of adhesive	1	1	1
2" x 2" sterile gauze compresses	12	12	18
3" x 3" sterile gauze compresses	12	12	18
Cotton-tipped applicators	50	50	100
2 oz. package sterile cotton	1	1	1
Box of 12 ammonia ampules	1	1	1
2 oz. tube of white petrolatum jelly	1	1	1
2oz. bottle of merthiolate or metaphen	1	1	1
Bottle of 100 5 gr. aspirin	1	1	1
Bottle of 100 soda mint tablets	1	1	1
Package of safety pins	1	1	1
Package of cleansing tissues			
Package of paper cups			
Scissors			
Tweezers			
Arm and leg splints			
Standard First Aid Manual			
Small notebook and pencil for recording cases			

### Suitable Case-Handling Procedures

1. Inform all employees of the type of care given, name of first-aid-er and importance of reporting promptly for treatment of every injury.
2. Supervise the first-aid kit closely but keep it unlocked at all times.
3. Permit only authorized first-aiders to use the kit and to give treatment unless the situation is very unusual. Self-treatment should never be allowed.
4. Record each treatment when given. A complete, concise record of treatment is essential for proper case handling.
5. Refer the patient to a doctor if there is any doubt as to the need for medical attention. In any event, check with the injured person the day after the accident and refer to a doctor if the condition has not approved.

management is definitely interested in accident prevention and is willing to do something about it; safety organizations have been set up in the plants and the basic factors of a safety program are being utilized in some plants, including the use and preparation of accident records.

### Injury Rate Down

As a result, Creel said, the lost time injury rate has decreased from 18.6 in 1952 to 11.0 in mid-1954. He cited the difficulty in

making such programs work every day, especially during the rush season when there is a tendency to discontinue meetings, inspections and other portions of the program. He emphasized that such times are when the full program is needed, when the most accidents can be prevented.

The southern safety official emphasized that housekeeping isn't being given enough attention, and that special emphasis in all phases of every day operation is needed

for a successful safety program.

To be successful, Creel concluded, a small plant safety program must have these features: Top management belief and support; assignment and acceptance of responsibility and a specific plan of organization.

Such a plan, Creel said, should include safety committees, accident investigation, plant inspection, first aid, good housekeeping, safety bulletin boards and accident records.

### Maintenance Hazards

W. A. Stone, superintendent, Wilson & Toomer Fertilizer co., was initial speaker on Tom Clarke's first "Stump the Experts" panel, and he emphasized the need for bringing any safety program to the

maintenance man.

Pointing out that mechanics are the biggest potential liabilities to a safety program, Stone emphasized that the men should be given a safe shop to work in with good tools. Every job is different, he continued, and maintenance men are exposed to numerous hazards every day.

He told delegates to have weekly safety meetings with mechanics and also pointed to the need for discarding or repairing worn out equipment and tools.

### First Aid—Basic Requirements

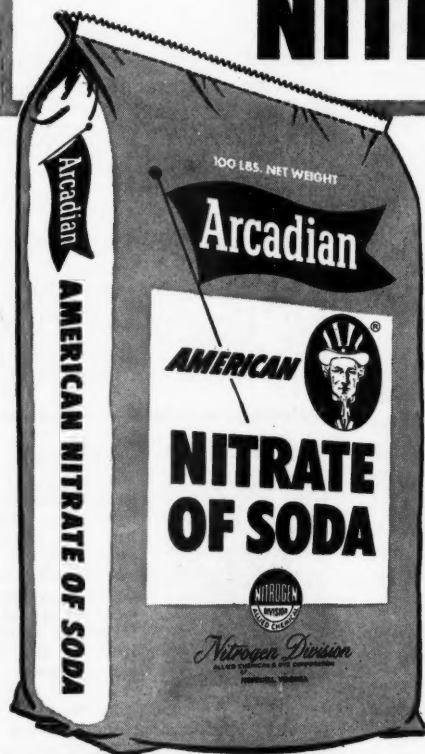
W. E. Powell, division manager, Loss Prevention dept., Liberty

Mutual Insurance co., defined first aid as the "immediate, necessary, temporary care given in case of injury or sudden illness" and stated that minimum needs for any plant include a qualified first aider, adequate equipment and supplies and suitable case-handling procedures.

The plant first-aider, said Powell, should possess suitable personal characteristics and should be thoroughly trained in one of the standard courses given by an accredited agency. A refresher course, he added, is advisable every three years.

Powell suggested that a space be set aside for administering first aid in a location with good light, ventilation, running water, soap and paper towels. Recommended equip-

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ment includes chair, small desk or table, covered receptacle and a first aid kit.

Fixed procedures for handling injury cases, he pointed out, tend to reduce the general confusion which might otherwise result when a serious accident occurs.

## Dynamite

In his remarks W. H. Henderson, general manager, Coop. Plant Foods, Inc. quoted from the American table of distances to provide data on proper storage of such explosives. In handling dynamite, he said, only the amount to be used immediately should be taken from the magazine. He added that it should never be placed where it might become covered with dust or lost down an elevator, etc., and recommended a check of pile, supporting structure and surrounding area before blasting.

Henderson suggested that the following points be kept in mind whenever handling dynamite: store properly, remove only amount to be used immediately, take close care to avoid careless mishandling of dynamite or caps, know your dynamite, make sure that all men are protected from flying debris that might be caused by blasting, provide proper instructions before any man begins blasting and maintain close supervision.

## Handling Nitrogen Solutions



Perrine

The handling of nitrogen solutions was discussed by Elmo C. Perrine of Nitrogen division. Perrine commented that suppliers of nitrogen solutions are "pleased to have the public

apply the precautions for gasoline to the handling of nitrogen solutions even though they may be excessive in some ways and too mild in some others.

"It is a good basis," he continued, "upon which to quickly build practices which are well suited to the properties of nitrogen solutions and which permits the public to derive the full benefit from them."

In summarizing his remarks, Perrine suggested the following points for the safe and profitable handling of solutions.

Use only equipment designated for the purpose by qualified persons.

Inspect regularly all safety devices such as pressure and vacuum reliefs and pressure gauges.

Determine whether present equipment is adequate before changing to another solution. Operating techniques should also be considered.

Hold operating pressures to a minimum.

Any heat above that of steam used to bring any salted-out material back into solution is dangerous.

Solutions and techniques have been developed to cope with cold weather as well as hot.

Where welding or cutting are necessary, prepare entire surface of vessel so it is as clean as when new.

Think of gasoline when in doubt, better yet, refer the problem to your solutions supplier.

Perrine said that the shift to use of air pressure in handling solutions has caused some concern over suitability of original equipment and, he added, even where equipment was designed for pressures, an "alarming unconcern or lack of knowledge" of destructiveness of air under uncontrolled pressure has been observed.

## Too Much Safety Equipment



Acree

The question of having too much personal safety equipment was raised by J. F. Acree, plant manager, Crawford Chemical co., who pointed out that "the attitude of a worker can vary from fear of injury because of lack of safety equipment to one of opposition to the use of safety equipment because of what the worker feels is unnecessary equipment."

Acree recommended that when hazards have been evaluated and

protective devices are being considered, employee's recommendations should be sought because the worker determines the degree of effectiveness of such equipment.

Proper safety equipment is more than an array of gadgets, Acree pointed out; "a worker will only gain from the use of equipment he understands and that includes understanding of its limitations."

## Reaching the Worker

Active, direct participation on the part of top management is a vital element in organizing an effective safety campaign, according to Allan Brent, vice president, Southern Fert. & Chem. co. He cited the experience of his own company where early efforts failed until an officer was assigned to actively supervise the campaign.

Employees recognized the officer as being close to the president of the company, and through a series of meetings with plant managers, superintendents, foremen and employees, all were convinced of the sincerity of management. The selected official maintained plant safety contacts at not less than monthly intervals and personally interviewed several injured employees and discussed the accidents with supervisors. Brent told delegates that through such activity a respectable accident rating was achieved within a year.

Other participants in the first symposium included Curtis A. Cox, assistant manager, Manufacturing dept., Virginia-Carolina Chem. corp., who had the subject of fertilizer-insecticide mixtures and D. A.

## Fert.-Pest. Chairman



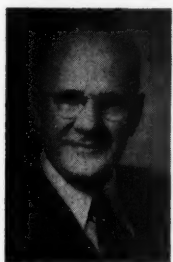
Largent

Edward J. Largent, industrial hygienist, TVA, has been named chairman of a sub-committee on the mixing of pesticides with fertilizer, according to an announcement by A. B. Pettit, chairman of the parent engineering committee of NSC's Fertilizer section.

The new group will develop safety data sheets for distribution to the industry. In addition to his work with TVA, Largent holds a research associate appointment in the Kettering Laboratory of the University of Cincinnati's College of Medicine.

Williams, manager, Peavey Fertilizer Plant who posed a question on blasting problems.

## The Job Ahead



Rhinehart

R. J. Rhinehart, division superintendent, Arkansas Power & Light co., was one of the principal speakers on the program for the second session. He told members of the section that

there are two types of approach to accident prevention, the first a psychological appeal to the workman's reason, personal pride, teamwork, cooperation and desire to work safely.

This, he added is the most important method, for it reaches 80 per cent of workers. The second, a compulsory program where definite safety rules and work procedures are set up and penalties of loss of time or dismissal inflicted for ignoring them, becomes necessary when the first fails, he continued.

Management must be convinced, Rhinehart said, that safety is worthwhile, and should take the lead in establishing a good program and following qualified advice. The supervisor is an important link because of his position as the liaison between management and the worker.

Care should be exercised when picking new workmen, he suggested, and new men should have a induction and training period. "The solution to accident prevention is in teaching the employee to think," Rhinehart concluded, "to keep the workman's mind continuously on what he is doing and to be sure he understands the instructions which he has received."

John Miskelly, director, safety and plant protection, Olin-Mathieson Chemical corp., presented a gadget display, and this was followed by another session of "Stump the Experts."

## Plant Wide Safety Contest

The objectives of a plant wide contest according to A. E. Johnson, safety director, Illinois Farm Supply co., are to stimulate interest among all employees in a good

safety record, to provide incentives for working safely and to aid employee relations by stimulating a friendly spirit of competition.

All employees participate in the safety incentive program used by Illinois Farm Supply, and teams are formed to provide competition. Merit points are awarded team members for submitting acceptable safety suggestions, working a full month with no accidents requiring more than first aid, working full month without being tardy or absent and conducting a portion of a group safety meeting.

Demerits are received for not reporting accidents, not wearing safety equipment, injuries requiring physician's care and also lost time accidents, absenteeism and tardiness.

Team standings and individual standings are posted periodically, said Johnson, and at the end of the year winning team members receive one cent per point, those on the second place team get one-half cent per point and third place team members receive one-fourth cent a point. Each employee orders his own prize from a catalog according to the points he has won. Prizes are distributed at the annual safety picnic.

## Acid Handling in the Treble Superphosphate Industry



McDonald

In his remarks Duncan McDonald, safety engineer, Anaconda Copper Mining co., pointed out that both sulfuric and phosphoric acids are used, the first produced in separate plants and the  $H_3PO_4$  manufactured within the phosphate plant.

Most acid lines in the sulfuric acid contact plant are under pump pressure so that when leaks develop,  $H_2SO_4$  is easily sprayed over a wide area. McDonald reported that all lines are of cast iron pipe connected with cast iron flange type couplings which are in turn covered by a removable lead housing, added as a safety measure.

At a point where two hydrometers were located near a number of valves and couplings, a plexiglad housing was built around the instruments and valves to prevent leaks from spraying the operator. Circular openings with automatically closing covers permit operators to reach through the housing while completely protected.

McDonald explained that acids are moved in larger gravity flow pipes in the fertilizer plant, where reduced pressure practically eliminates danger of spraying.

## Free Acid

At several points, he continued, employees work near free acid, and each area requires special safety regulations. Eight inch plastic face shields, of .030 inch thickness, are used to replace goggles where atmospheric conditions are rather damp and the latter tend to fog easily. Where fogging is not a problem, McDonald added, a large rubber eyecup goggle with plastic monolens is used for eye protection.

Repairmen working on acid lines, pumps and tanks are equipped with rubber shoes, clothing and gloves and a plastic hood which covers head, neck and shoulders.

It has been difficult, he said, to paint all lines properly because of the degree of corrosion in the plant; however, painted metal tags are placed on lines to aid identification. It is quite difficult to keep these in good condition, he reported.

## Wool Found Superior

Both wool and dynel clothing are used, and McDonald has found wool the superior material because it holds out acids while synthetics tend to be easily penetrated. However, dynel and other synthetics will outlast wool. McDonald also mentioned rubber footwear, rubber or neoprene gloves, acid goggles, hard hats and chemical cartridge respirators as other protective devices used in the Anaconda plant.

Air line respirators with full facepieces and demand regulators are worn when cleaning storage tanks, and these devices furnish good air while providing complete facial protection, he added.

At the Anaconda facilities an emergency hospital is available with trained attendants, and deluge showers and eye wash fountains

## Tractor Operator Safety Rules

Rules used by Kingsbury & co., Indianapolis, Ind., as outlined by M. H. Talbott, superintendent in his NSC Fertilizer section talk.

1. All operators should operate only those tractors which they are qualified and authorized to operate.
2. Before putting a tractor in operation test brakes, steering controls, clutch and other devices for safety and ease of operation.
3. Report faulty tractor performance to your supervisor without delay. Adjustments and repairs must be made only by authorized personnel.
4. Permit no PASSENGERS on vehicle other than driver.
5. Keep to the right and operate at safe, authorized speeds.
6. Slow down at cross aisles, sharp curves, ramps, dips, blind corners—on wet, slippery or rough floors—in congested areas—and when vision is limited or obstructed. Always drive at moderate speeds.
7. Watch overhead clearance at all times when operating tractor.
8. Consider the official speed limit as MAXIMUM speed.
9. Obey all traffic and warning signs. STOP means full stop. SLOW means reduce speed so that a quick stop can be made if necessary.
10. If traffic in narrow aisles is not routed "one way," be sure path is clear before proceeding.
11. Start and stop tractor gradually and slowly. Always look around before starting. Sudden stops are for emergency only. Avoid quick turns.
12. Look in direction tractor is traveling. Keep a clear view of the path. Always look backward when backing up, even for a short distance.
13. Avoid following closely pedestrians or others, especially when operating down inclines.
14. Be especially alert when approaching aisles which cross near tops or bottoms of ramps.
15. Keep feet, hands and other parts of the body inside the running lines of the tractor.

are located in various sections of the plant.

McDonald concluded his remarks by suggesting that plants be engineered to eliminate hand handling of acids as much as possible and pointed to the need for properly educating employees to existing hazards.

### Tractor and Tractor Shovel Operation

In his talk M. H. Talbott, superintendent, Kingsbury & co., expressed the opinion that many tractor drivers are not properly trained and equipment is often poorly maintained.

He reviewed a tractor drivers' contest held at the Kingsbury plant

during the past year which provided an excellent workout of operator ability and safety sense.

Drivers put their vehicles through an obstacle course composed of eight barrels, picked up a load of fertilizer, backed around the obstacles and dropped the goods in another bin. Winners, Talbott pointed out, were not the fastest or those who carried the biggest loads.

He suggested that operators be permitted to review instructions accompanying equipment, maintain tractor units in good mechanical condition and train operators to be safe drivers. The Kingsbury safety rules for tractor operators were reviewed in closing.

## Hazards of Phosphate Mining



Phillips

B. J. Phillips, safety director of Coronet Phosphate co., described briefly a phosphate mine operation pointing out the major hazards involved. Large power cables run from ground

pole switches to draglines and pumps, and must be pulled along with the machines by men using "hot sticks."

Once an area is cleared and drained, he continued, the overburden is removed and pumps installed in barges in the bottom of the pits to keep water pumped out. The possibility of cave-ins and slides is a potential hazard and barge men must wear life jackets while in the pit.

The usual plant hazards found wherever heavy machinery is a part of the operation are complicated in flotation plants by the reagents used to float the rock, materials such as sulfuric acid, amines, caustic, fatty acid, kerosene and fuel oil.

## Housekeeping



Morris

Grayson B. Morris, assistant manager, Coop. Fertilizer Service, suggested that a clean orderly plant has an excellent effect on the mental attitude of a worker, enabling him to begin

work in a proper frame of mind and increasing his efficiency.

Since the business is seasonal, he said, general housecleaning takes place during slack season and in rush periods, when good housekeeping is especially necessary, it is often neglected.

Other members of the concluding symposium included J. S. McKenna, safety director, Lion Oil co., on "Anhydrous Ammonia" and H. H. Diserens, safety director, Phillips Chemical co. on "Conveyors." ♦

FARM CHEMICALS





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# Control Officials Hold Annual Conventions

**A**GRICULTURAL control officials converged on Washington's Shoreham Hotel for their regular week long series of meetings on Oct. 11 to 16. The Association of American Fertilizer Control Officials held its convention on October 15 and the Association of Economic Poisons Control Officials, Inc., met the following day. Both meetings were preceded by informal gatherings of industry representatives and control officials.

The fertilizer control group heard addresses by retiring president Henry A. Davis, Durham, N. H.; Dr. Russell Coleman, NFA presi-

dent; Paul T. Truitt, APFC president; Rodney C. Berry, Richmond, Va.; Walter Scholl, USDA; Dr. W. L. Nelson, N. C. State College and John D. Conner, NAC Association attorney.

Officers for the coming year include R. W. Ludwick, State College, N. M., president, and M. P. Etheredge, State College, Miss., vice president. Bruce D. Cloaninger, Clemson, S. C., was re-elected secretary of the group.

New members of the Executive committee are Stacy B. Randle, New Brunswick, N. J., and J. J. Taylor, Talahassee, Fla.

Talks by Floyd Roberts, North Dakota, retiring president; Dr. Philip J. Spear, technical director, National Pest Control Operators Assn. and Dr. M. R. Clarkson, USDA, were presented to pesticide control officials.

Ernest E. Epps, Jr., Baton Rouge, La., was named president of the AEPSCO and Clyde A. Bower, Oklahoma City, Okla., vice president. A. B. Heagy, College Park, Md., was re-elected secretary-treasurer of the group. New members of the Executive committee are F. H. Gates, Denver, Colo., and W. C. Geagley, Lansing, Mich.

## Fertilizer Control Officials

**I**N HIS presidential address, Henry A. Davis reported on a letter sent to 52 fertilizer manufacturers making inquiry into suggestions for improving control work in their area and also requesting

comments on the publication of control work. He received 25 responses to this letter, all very favorable to the work being accomplished by control officials and containing a number of suggestions.

Suggestions included the thought that larger samples should be sent to the laboratory, a riffle or similar device should be used in dividing samples, avoid field quartering, check all fertilizers on the market, publish all analyses and several other comments on tolerances and analysis.

Considering the problem of ex-

pressing analytical results in terms of the element, he referred to the work being done on changing from  $P_2O_5$  to P and from  $K_2O$  to K. Davis suggested that a definite date be set to make such a change effective with allowance for a period of education to use of the new terms.

Davis remarked on the OAOC resolution, introduced by Dr. K. D. Jacob, USDA, to the effect that in the future,  $P_2O_5$  will be spoken of as phosphorus pentoxide or phosphorus wherever possible and not phosphoric acid. The latter term will refer only to  $H_3PO_4$ . The old term, however, will remain in use wherever it is presently specified.

One result of using elemental symbols, Davis pointed out, would be to bring into line the definition

M. P. Etheredge, Miss.; R. W. Ludwick, pres. elect, AAFCO; H. R. Allen, Ky.; B. D. Cloaninger, S. C. and J. D. Patterson, Ore. All are Executive committee members.



of ratio figures. As an example he mentioned a 1-1-1 ratio which, on an elemental basis, is 1-.43-.83 and which could be easily adjusted to be a 2-1-2 ratio.

### Mixed Goods vs. Materials

Dr. Russell Coleman, NFA, reviewed the 20 year situation on mixed fertilizers versus materials and showed that during the period 1934 to 1953 very little change in the relative plant food content took place. The total in mixed goods has remained more or less constant at 70 per cent throughout this period.

Through the use of slides he showed that the percentage of nitrogen materials used in mixed goods is falling behind while a slight gain has been registered with potash and a large gain in phosphate. The nitrogen loss has been especially noticeable in the south central and east north central areas where anhydrous ammonia usage has been making especially rapid gains.

The problem of an increasing demand for food and the national income situation was referred to by Paul T. Truitt, APFC, who stated that the agricultural purchasing power of labor should remain more or less constant for the fall and spring. Truitt sees a trend toward a sounder and more profitable agriculture next year.

Commenting on the NPK expansion goals he reported to the control officials that all three have been filled and are either completed or well under way. He estimated that the nitrogen supply may outrun actual demand, that phosphate supplies are adequate, at levels about equal to those last year, and that a new high in potash consumption is anticipated.

### Berry on Public Relations

In his talk on Public Relations, Rodney C. Berry, Richmond, Va., suggested that trust and cooperation would make the job of a control official much easier and that too much effort has been spent on considering how laws are to be enforced while opportunities to explain the reasons for legislation are neglected.

He advised control men to inform the public on the purpose of the law noting comments and suggestions. Field inspectors' manner of approach to the public is especially important, he added. Bear in mind, Berry said, that the public judges the regulatory office by its field representatives.

Although it would require some additional time and personal effort, Berry recommended that advantage be taken of the opportunity to address civic groups and other organizations. This offers an excellent opportunity, he commented,

to gain the respect and confidence of the public.

### Non-Farm Fert. Consumption

Dr. Walter Scholl reported on the "Non-Farm Consumption of Fertilizers in 1952-53," a survey in which he has worked with Hilda Wallace, also of USDA. His paper was preliminary in nature and has not yet been correlated with figures gained in a previous survey conducted for the year 1947-48.

Scholl estimated that 350,000 tons of mixtures and 290,000 tons of materials were used in non-farm consumption, a total of 2.8 per cent of all fertilizers consumed. His records showed the results of 338 manufacturers producing 272 grades. Primary interest seemed to be in lawn or garden materials followed by packages designed for flower or rose application.

Breaking down a total of 202 manufacturers by regions, the Middle Atlantic area led by a considerable margin in the number of companies located within its borders. It was followed by the South Atlantic, East North Central and the Pacific regions.

Most grades covered in the survey contained 20 to 24 units of plant food or less. Considerable use of organic materials was demonstrated by Scholl's figures which showed some 60 per cent of tankages and sewage sludge utilized for non-farm packages in addition to

Head table at NFA's banquet honoring AAFCO members. Paul T. Truitt, APFC president; Parks A. Yeats, Oklahoma; R. W. Ludwick, New Mexico, president elect, AAFCO; Dr. Russell Coleman, NFA president; W. R. Allstetter, NFA vice president, passing behind Dr. Coleman; Henry A. Davis, New Hampshire, AAFCO past president; Rodney C. Berry, Virginia; L. B. Taylor, CSS, USDA; Bruce D. Cloaninger, South Carolina, secretary-treasurer, AAFCO.





large percentages of manures and other materials.

Analyzing costs of these products, Scholl projected a table showing the value per unit of plant food which averaged \$85 for tablet form fertilizers, \$55 for liquid products, \$40 for water soluble materials and \$15 for conventional types.

### Growth of Economic Crops

Dr. Nelson, who is in charge of soil fertility research at N. C. State College, presented slides demonstrating the growth of major economic crops and which showed the relative growth of root systems. Comparing this growth, and the ability to forage for food, he demonstrated that corn roots grew rapidly and covered a much wider area than those of cotton plants in the same period of time.

He reported that less phosphate is fixed in a well limed soil (7.0) than in those on the acid side and that less potash is leached under the same conditions.

### Warning & Caution Statements

The use of warning and caution statements in labeling fertilizer products was discussed by John D. Conner, NAC attorney, who pointed out the potential hazards in such materials as castor pomace and phosphoric acid as well as those involved with fertilizer-pesticide mixtures and liquid fertilizers.

In determining whether such statements are required as a matter of law or will be voluntarily used, Conner said that consideration must be given to the nature of the potential hazard, the seriousness of consequences of exposure to it and the probabilities of the hazard arising if warning is not given.

In such statements the product name and ingredients should be clearly stated. A signal word such as "danger," "warning" or "caution" should be used to denote the degree of severity of the potential hazard, Conner continued. This should be followed by a concise statement of the nature of the hazard, which will be more effective if an explanation or warning is included of the type injury that might result if precautions are not followed.

Conner stated that in his opinion "there is no problem arising from the lack of regulatory authority in most of the states." He added

that in a number of states the problems arising from fertilizer-pesticide mixtures have been met through close cooperation of fertilizer and pesticide control officials.

"It is essential," Conner added, "that, regardless of the statutory source of the regulatory authority that it be exercised in a moderate manner and with a degree of uniformity which can be achieved only by close cooperation with your fellow officials."

### Principles of Uniformity

Principles to follow in gaining this uniformity as suggested by Conner were: "be moderate in your regulatory requirements of warning and caution statements . . . do not publish regulatory requirements which are more rigid than you believe to be necessary with the intention to moderate these strict requirements by a soft enforcement policy . . . make every reasonable effort to bring about uniformity through cooperation with your fellow officials of the other states and of the Federal government in the case of fertilizer-pesticide mixtures."

In recommending moderation in requirements he suggested that the use of warning and caution statements be reserved for hazards presenting a real threat without dilution of efficiency through requirements for those of minor consequence and remote in probability.

He pointed out other ways in which the latter hazards can be dealt with, including adequate directions for use and directions and precautions of schedules of state recommendations.

### Legal Obligation

Conner reminded the control men that regulations impose a legal obligation on the manufacturer and that even if the intent is to softly enforce a strict requirement the control official is not always sole judge of a violation, and the manufacturer could be subjected to heavy penalties in a product liability action.

The NAC counsel commented on the use of tags for meeting the requirements of precautionary labeling, and concluded that they are not the safest media for warning and caution statements because they are so easily detached. Use of tags was attributed, in part, to the diver-

sity of labeling regulations in various states.

Development of a uniform labeling pattern, he continued, would make possible use of bags with printed labels simplifying distribution of the goods and lessening chances of errors.

Conner suggested that fertilizer manufacturers "comply fully with any regulatory requirement for precautionary labeling (and) use precautionary labeling to warn against any potential hazard which is reasonably foreseeable regardless of any regulatory requirement."

The subject of urea-formaldehyde fertilizer materials received considerable attention at the states rights meeting through a definition offered by investigator M. P. Etheredge.

The definition, as adopted tentatively by the control group reads: "Urea-formaldehyde fertilizer materials are reaction products of urea and formaldehyde containing at least 35 per cent nitrogen largely in insoluble but slowly available form. The water insoluble nitrogen in these products shall test not less than 40 per cent active by the nitrogen activity index for urea-formaldehyde compounds as determined by the appropriate AOAC method."

At the informal meeting a Nitrogen division representative discussed some of the materials that organization has had under test and protested the adoption of a ruling calling for a 40 per cent activity level. He said that the division has developed several satisfactory products but, for some production cause, many will not pass this requirement.

A USDA representative also briefly discussed the subject stating that some products are not high enough for fertilizer use. The object of the activity level ruling was to rule out urea-formaldehyde resins, very insoluble materials which nitrify slowly.

### Fert-Pest.

#### Mix Recommendations

Allen B. Lemmon, Sacramento, Calif., introduced four recommendations relating to pesticides in fertilizers and it was suggested that all state control officials adhere to them. These included:

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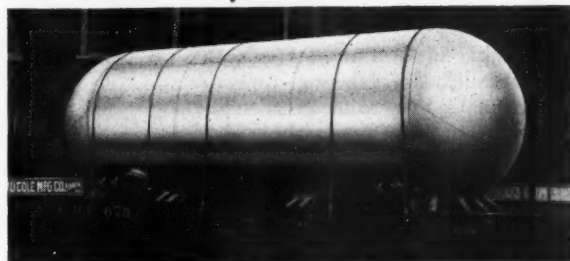
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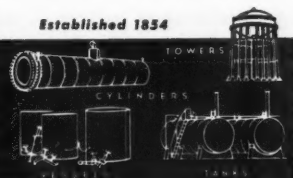
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- requiring fertilizer-pesticide mixtures to be labeled fully in accordance with the requirements of both the fertilizer law and the pesticide law.
2. It is recommended that "custom mixtures" or "farmer mixtures" of fertilizers and pesticides be required to be registered, and if the state law does not now

require such registration of custom mixtures, study be given to the possibility of amending the law.

3. It is recommended that where fertilizer-pesticide mixtures are to be used for experimental purposes, registration be required under both laws unless they are free materials for which no

charge is made.

4. It is recommended that all regulatory officials carry on an aggressive cooperative program with members of the state experiment stations and the industry to develop data which will serve as an adequate basis for sale, use and regulation of fertilizer-pesticide mixtures.

## Economic Poisons Control Officials

ONCE AGAIN the word "concentrate" was discussed at the sessions of the pesticide control officials although no change was effected and the tentative ruling adopted last year still stands.

In his address, retiring president Floyd Roberts spoke briefly about the matter, adding that an industry-association committee had considered the matter.

Some criticism from industry of having taken too hasty action was received, added Roberts, who pointed to the need for speed and positive action while cautioning investigators to make as thorough investigations as possible before deciding on a recommendation.

The possibility of achieving more uniformity in form and statements of precautionary labeling appears questionable, he said, because of several complicating factors.

### NPCA Aims & Activities

The aims and activities of the National Pest Control Assn. was discussed by its technical director, Dr. Philip J. Spear, who stressed points of mutual interest with the control group.

Spears commented on the assistance received from Federal and state workers and also pointed out that pest control operators are of assistance in several ways; for example, in informing officials of new cases of insect resistance.

Other related activities include keeping its membership up to date on improper advertising and exaggerated claims, misuse of chemicals or techniques and combatting claims of "ill-advised persons."

### Clarkson Speaks

Dr. M. R. Clarkson, deputy administrator of USDA's Agricul-

tural Research Service told officials that a good regulatory job requires a full understanding of the nature of hazards that brought about the legislation and the need for enforcement and a thorough knowledge of techniques of controlling these hazards.

In discussing changes that have been made in the regulatory set-up as a result of USDA organization he pointed out that enforcement of pesticide regulatory work has been transferred from the Marketing to the Research Service. In ARS funds and manpower are about equally divided between research and related regulatory work.

The Pesticide Regulation Section is one of six units in the Plant Pest Control Branch which, under the direction of Dr. W. L. Popham, is responsible for USDA programs of plant pest control and the regulation of marketing of economic poisons and devices.

This branch, Clarkson continued, administers the Insecticide, Fungicide and Rodenticide Act of 1947, the Insect Pest Act of 1905, the Plant Quarantine Act of 1913, the Pink Bollworm Act of 1930, sections of the Department of Agriculture Organic Act of 1944 and a number of others. Much of the work involves use of economic poisons in pest control.

Under the new system, he said, those in pesticide regulation work more closely with the Methods Improvement Section, a group handling liaison with research.

Clarkson cited work done by Beltsville scientists in a search for effective analytical methods and noted recent findings including a new method of analysis of Demeton, a colorimetric determination for

L13/59 and a sensitive technique of BHC analysis.

### Reviews Miller Bill

He then reviewed principal points of the Miller Bill and showed the part that the ARS will play in determining usefulness of new pesticides and in reviewing data submitted. USDA must try to work out with FDA, he added, the appropriate tolerance of exemption before an experimental permit is issued.

Clarkson reported that the highest registration under the Federal I, F and R Act since 1948 and 1949, the two years immediately following its passage, occurred the past fiscal year when over 4,000 new products and 3,000 products for new or revised uses were registered.

He closed by commending the group for adequate precautionary labeling and for its drive to acquaint physicians with symptoms of poisoning by pesticides and the antidotes required for treatment.

### Hoffman Selected

During the closing sessions of the convention Harry A. Hoffman was selected as the association's representative of a committee to work on the problem of seed coloration. Others serving on the committee include representatives of the Association of Food and Drug Officials, US Public Health Service, feed control men and seed analysts in cooperation with industry.

A registration fee of \$2.00 for each future meeting was voted, and a committee will be appointed by incoming president Epps to work on a state collaborative check sample program. ♦



# Pest Reports

## Vegetable Pests in Late Sept., Early Oct.

The lesser cornstalk borer, an insect that occurs from Maine to California but which causes injury primarily in the southern states, was rather active in several southeastern states during late September. In Harnett county, N. C., the insect caused serious injury to the stems of field beans.

Moderate to severe injury to snap beans was recorded in the Charleston, S. C., area and replanting was necessary in many cases. Heavy damage occurred in Spalding county, Ga., where at least 90 per cent of the plants were infested. A similar infestation was reported from the Quincy, Fla., area with an anticipated loss of at least 75 per cent of the crop. As far as can be determined, this is the first time pole beans have been damaged at Quincy.

In Virginia this insect was responsible for a 50 per cent reduction of yield in two Sussex county peanut fields. Soybeans were seriously damaged in parts of North and South Carolina. In Texas 80 to 90 per cent loss of mung bean and cowpea plants were reported from Hardeman county. Grain sorghum was also infested in Hardeman and Midland counties.

Light local infestations were also reported on bush beans at Winter Haven, Dimmit county, Tex. The insect was also active on peanuts on Yuma Mesa, Ariz., and damaged fruits.

Of particular interest is the report of the European corn borer causing rather severe damage to peppers in Marshall county, Ala. Although the insect has been known to be in several northern counties of the state, this is believed to be the first record of economic damage caused by the insect in Alabama.

Corn earworms which have been very abundant this season were continuing to cause damage in various locations. In Grayson county, Va., late snap beans were still being heavily damaged. One field of 15 acres was abandoned without making the second picking.

In Idaho damage was increasing on late canning corn but not as severe as during the past two years. Severe damage was also reported to sweet corn in Wisconsin and Michigan.

Other vegetable insects which have been causing damage during recent weeks include the tomato russet mite, which killed some tomato plants in the Yuma valley of Arizona before treatments were applied. Medium infestations started in some Ohio tomato canning areas but developed too late to seriously affect the yield.

Other areas reporting the mite during this period were Cumberland and York counties, Pa., and

*Based on material received from Economic Insect Survey Station, Plant Pest Control Branch, Agricultural Research Service, USDA, supplemented with information received by FARM CHEMICALS from Federal and state agencies.*

Layton area of Utah. The two-spotted spider mite was very heavy on planting of tomatoes in Cumberland county, Pa.

In Indiana vinegar flies developed into such a problem in some canneries that the canning of tomatoes was discontinued. This situation developed primarily because dry weather caused cracking of the fruit which provided ideal situation for egg laying. The infestation developed both in the fields and canneries.

Cabbage caterpillars were active in widely separated parts of the United States. Insecticides were necessary against the imported cabbageworm on collards in the Clarksville, Tenn., area. The same species was unusually abundant on cabbage and cauliflower throughout Wisconsin. Broccoli and cabbage were damaged in Montgomery and Howard counties, Md. The cabbage looper caused damage to collards in Wake county, N. C., Norfolk and Princess Anne counties and the Eastern Shore of Virginia.

## Fruit Insects

The oriental fruit moth was more numerous in Elberta peaches in Michigan than it has been in several years. This was due to the hot weather which extended into early September. Mid-summer harvested peaches in packing sheds of the Sandhills area of North Carolina were found to be 3 per cent infested after having been treated five, three and two weeks before harvest.

In California where the oriental fruit moth was first found in 1942 persistent infestations have prevailed only in limited areas in the southern part of the state up to this time. Since early in August, a number of infestations have been reported from Fresno, Kings and Tulare counties.

Of particular interest is the very intense outbreak that has developed in the Kingsburg area of Fresno county. Earlier damage was confined to twig terminals of peach trees, while subsequent generations have attacked the fruit. The heaviest infestation centered at a point common to the three counties, the Ernest Peterson ranch in particular. The late cling peach crop (Gaumes) was almost, if not a total loss. Twig damage was severe in old and young trees in the Kingsburg district, while a few plum twigs showed similar damage.

A quick survey of the area indicated that the infestation extended south and west from Kingsburg about two miles, eastward to Dinuba, Tulare county, with twig damage gradually decreasing. No such damage was noted in the William Ruppman orchard at north Dinuba where there was an appreciable oriental fruit moth population in 1944, nor was twig damage noted in the J. H. Bigger peach orchard in Parlier, Fresno county, the site of another 1944 infestation. There are rumors of even more widespread infestation as yet unverified. It is felt that if the current generation of larvae overwinter instead of producing a flight of moths this fall, a serious situation may develop again next year.

The European red mite was depositing eggs on apple fruit generally over Pennsylvania during the latter part of September. In Utah the mite was still causing

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damage in northern Utah orchards as well as in some orchards in Washington county which is in the southwestern area of the state.

A mite, *Vasates fockeui*, has been more abundant on cherries than normal in the Dallas, Ore., area. It has also been abundant on cherries in the Wenatchee, Wash., area. The peach silver mite was also abundant on Lodi apples in the Wenatchee area.

Codling moth injury to apples increased during late September in both Michigan and Ohio. Infestations in many Utah orchards were more severe than expected, evidently due in part to an extended moth emergence.

Other fruit insects causing more than normal damage included apple aphids in the Hood river, Ore., area, where damage to the terminal shoots of small trees was of particular importance. New growth on both young and old citrus trees was damaged by the citrus thrips in Arizona.

The apple maggot was more abundant than usual throughout Wisconsin and was very destructive where complete spray schedules were not followed. In Florida the Florida red scale was expected to be more troublesome during the fall months than for the past two years but was not expected to be as serious as in the fall of 1951. A heavy infestation of the European fruit lecanium ruined the peach crop in an Albemarle county, Va., orchard.

Due to the lateness of the season and general maturity of crops, most cereal and forage insect activity dropped off sharply during the month; however, some persistent pests such as corn earworm, lesser cornstalk borer and fall armyworm continued to cause important damage in some areas. ♦

## Literature

**Analytical Index of Chemical Engineering Publications, Patents and Reports.** Chemical Engineering Report No. 10. TVA. 192 pages. Available from Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. \$.55 per copy.

The report catalogues, by subject, the publications, patents and

internal reports covering a large part of TVA chemical engineering activities since advent of the authority in 1933.

Specific subjects of special interest to the industry include the process relating to process of rock phosphate and production of phosphorus, superphosphate, metaphosphates, ammonium phosphates, fluorine recovery, ammonium nitrate, dicalcium phosphate, ammonia, nitric phosphates, calcium cyanamide, guanidine and urea.

### Air Pollution, A Bibliography.

Bureau of Mines Bulletin 537 by S. J. Davenport and G. G. Morgis. Available from Superintendent of Documents, US Government Printing Office, Washington 25, D. C. \$1.75 a copy.

The bibliography contains more than 3,900 references dating from 1819 to 1952 on available scientific literature on outdoor air pollution, including both domestic and foreign sources.

**Chemical Investigation of Fluorine Compounds as Fungicides.** Wight Air Development Center. 1952. 31 pages with formulas and diagrams. Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. \$1.00 (Code number of report: PB 111324).

Describes basic research into the efficiency of some new organic fluorine compounds as fabric fungicides.

### Organic Fertilisers, Their Properties and Uses.

Prepared under the auspices of the Association of British Organic Fertilisers, Ltd., Fertiliser Journal Ltd., 110 Cannon St., E.C. 4, London, England. 6/-net. 84 pages.

Provides information and usage data on a variety of organic fertilizer materials with a chapter on the fertilization of various crops. It has been edited by the editor of the FERTILISER AND FEEDING STUFFS JOURNAL.

## Calendar

**Nov. 8-12**—Amer. Society of Agronomy, St. Paul, Minn.

**Nov. 9-11**—16th Annual New York State Insecticide, Fungicide conference, Ithaca.

**Nov. 10-12**—NFA Southern convention, Hollywood Beach hotel, Hollywood, Fla.

**Nov. 13-14**—Grassland Program, sponsored by Joint Committee on Grassland Farming and Soil Conservation Society of America, Hotel Geo. Washington, Jacksonville, Fla.

**Nov. 15-16**—Calif. Fert. Assn., Coronado, Calif.

**Nov. 15-16**—Eastern Branch, ESA, New York City.

**Nov. 16**—5th Nat'l. Conf. on Standards, sponsored by Amer. Standards Assn., Hotel Roosevelt, New York City.

**Nov. 17-18**—Ohio Pesticide Institute meeting, Neil House, Columbus.

**Nov. 18**—Annual Pesticide Dealers conference, New Brunswick, New Jersey.

**Nov. 18-19**—Fertilizer section, S. C. Annual Accident Prevention conf., Spartanburg, S. C.

**Nov. 19**—Ohio Fert. conference. Hearing Room No. 2, State Office Bldg., Columbus.

**Nov. 23**—4th semi-annual meeting and winter conference of Manufacturing Chemists' Assn., Statler Hotel, New York City.

**Nov. 29-30**—Indiana Fertilizer conf., Purdue University, Lafayette, Ind.

**Nov. 29-Dec. 1**—Third National Ag. Credit conference, American Bankers

Assn., Hotel Peabody, Memphis, Tenn.

**Nov. 29-Dec. 2**—Vegetable Growers Assn. of America annual convention, Syracuse, New York.

**Dec. 2-3**—Beltwide Cotton Insect Control conf., Adolphus Hotel, Dallas, Tex.

**Dec. 5-9**—Agric'l. Ammonia Inst., Jung Hotel, New Orleans.

**Dec. 5-9**—Nat'l. Jr. Vegetable Growers' Assn., Cincinnati, O.

**Dec. 6**—Fert. short course, U. of Minn., Institute of Agriculture, St. Paul.

**Dec. 6-9**—North Central Weed conf., Gardner Hotel, Fargo, N. D.

**Dec. 6-9**—ESA annual meeting, Houston, Tex.

**Dec. 7**—Exec. committee meeting, Fertilizer section, NSC, Board of Directors' Room, Spencer Chem. Co., Memphis, Tenn.

**Dec. 10-11**—Utah State Hort. Society annual convention, Hotel Utah, Salt Lake City.

**Jan. 4-5**—Pesticide School, N. C. State College, Raleigh.

**Jan. 9-12**—Middle States Garden Supply Show, Hotel Sherman, Chicago.

**Jan. 17-19**—Cotton States branch, ESA, meeting, Tampa Terrace Hotel, Tampa, Fla.

**Jan. 31-Feb. 3**—Eastern States Garden Supply Show, 71st Infantry Regiment Armory, New York City.

**Feb. 7**—Tenn. Seedmen's Assn. annual meeting, Andrew Jackson Hotel, Nashville.



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**Manual on Fertilizer Manufacture.** Second Edition. By Vincent Sauchelli. Davison Chemical co., div. of W. R. Grace & Co., Davison Bldg., Baltimore, Md. \$4.50.

A revised and expanded edition of Dr. Sauchelli's standard on fertilizer production which includes added information dealing with new developments in formulation, plant equipment, nitric acid acidulation and use of surface active agents.

Information is also provided on plant organization, accident prevention and chemical control. The book provides an excellent source of information for anyone engaged in fertilizer production.

**Plant Regulators in Agriculture.** Edited by H. B. TUKEY. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. 269 Pages. \$5.50.

Contributions of 17 authorities have been brought together in this volume, edited by Michigan State's Harold B. Tukey. Authors have provided information on the fundamentals of their respective subjects clarifying the nature of plant regu-

lators, the way in which they work, the chemistry involved, plant responses and have given details about specific treatment and usefulness.

Included are topics such as encouragement of roots by plant regulators, control of flowering and fruit setting, parthenocarpy, abscission, prevention of preharvest fruit drop, inhibition of sprouting and weed control. ♦

### Three States Give First Half Fert. Sales

Fertilizer sales figures from three states show varying conditions, with a drop of 11 per cent noted in West Virginia for the first six months of 1954 compared with the same period last year, and a gain of over 12 per cent is reported from Kansas for the same period.

In West Virginia, according to J. B. McLaughlin, commissioner of agriculture, sales of mixed goods totaled 55,347 tons during this period, approximately the same as the figures shown from that period of 1953. However, a sizeable decrease in sales of superphosphate was noted—only 2,048 tons as com-

pared to 9,478 tons last year.

Kansas sales show an increase of nearly 11,000 tons to 98,248 tons while tonnage of plant nutrients rose to 35,595 tons this year from 28,572 tons in the 1953 period.

Missouri sales for the first six months are reported at 328,809 tons of mixed fertilizers and 171,221 tons of materials.

### Super Down in July

Superphosphate production during July declined 17 per cent from the 1953 figure, with total production set at 129,295 tons, 100 per cent APA basis. This also represented a drop of 22 per cent from the June total.

Shipments of all grades totaled 62,849 tons for July, a drop of 15 per cent from June and 26 per cent from July, 1953. Stocks on hand at the end of July were 11 per cent greater than those held on the first of the month and 14 per cent more than those on hand as of July 31, 1953.

Preliminary data on the first six months of 1954 compared with the same period of 1953 show the following totals:

## Production — July, 1954

Compiled from Government Sources

Chemical	Unit	July		June 1954
		1954	1953	
Ammonia, synth. anhydrous.....	s. tons	1211,311	185,515	216,786
Ammonia liquor, coal & coke—(NH <sub>3</sub> content).....	pounds			
Ammonium nitrate, fert. grade (100% NH <sub>4</sub> NO <sub>3</sub> ).....	s. tons	131,028	99,017	116,189
Ammonium sulfate.....				
synthetic (technical).....	s. tons	74,302	40,939	58,439
coke oven by-product.....	pounds			
BHC (Hexachlorocyclohexane).....	pounds	7,047,163	5,266,008	7,738,483
Gamma content.....	pounds	1,136,880	763,277	1,250,870
Copper Sulfate (gross).....	s. tons	1,251		1,391
DDT.....	pounds	**9,448,867	5,718,932	9,401,444
2,4-D Acid.....	pounds	**2,267,986	1,440,373	3,058,983
esters & salts.....	pounds	1,414,125	1,512,635	2,412,404
esters & salts (acid equiv.).....	pounds	1,098,454	1,185,047	1,828,497
Lead Arsenate (acid & basic).....	s. tons			323
Phosphoric acid (50% H <sub>3</sub> PO <sub>4</sub> ).....	s. tons	221,212	195,728	*240,009
Sulfur, Native (Frasch).....	l. tons	471,594	423,639	455,174
Recovered.....	l. tons	31,900	30,761	30,500
Sulfuric Acid, gross (100% H <sub>2</sub> SO <sub>4</sub> ).....	s. tons	1,066,874	1,155,529	*1,108,225
Chamber process (100% H <sub>2</sub> SO <sub>4</sub> ).....	s. tons	170,669	210,120	*181,469
Contact process (100% H <sub>2</sub> SO <sub>4</sub> ).....	s. tons	896,205	945,409	926,756
Superphosphate (100% APA).....	s. tons	129,295	155,831	*165,683
Normal & Enriched (100% APA).....	s. tons	86,282	112,682	*123,061
Enriched.....	s. tons	1,200		
Concentrated (100% APA).....	s. tons	41,600	42,928	42,466
Wet Base (100% APA).....	s. tons	213	156	221
2,4,5-T Acid.....	pounds	**262,390	488,035	209,435

\* Revised.

\*\* Partly estimated.

<sup>1</sup> Includes quantities for 2 plants previously not reporting.

<sup>2</sup> Includes quantities for 1 plant previously not reporting.

<sup>3</sup> Data included with normal super prior to July 1, 1954.

# FERTILIZER MATERIALS MARKET

## New York

October 11, 1954

**Sulfate of Ammonia.** Another large Government inquiry is in the market for material for shipment to Korea. Shipments from production points are said to be increasing slightly, with no price changes noted.

**Nitrate of Soda.** Chilean material was reduced in price the past week \$1.75 per ton, and probably domestic producers will meet this price and reduce their price accordingly. Lagging demand prompted this cut.

**Ammonium Nitrate.** Very little improvement is noted in the demand for ammonium nitrate, and reports have been made that recently a considerable quantity has been put in store by the producers.

**Urea.** Demand is rather slow at the present time although there has been some inquiry from the industrial trade. Imported is offered at \$117 per ton at the ports.

**Nitrogenous Tankage.** While an occasional sale is made, most producers have either withdrawn from the market or are sold out for the next three to six months.

**Castor Pomace.** Producers are still not inclined to make offerings, and the market is nominal at \$30 per ton, f.o.b. production points, as bids have been made at this figure. No offerings of foreign material have been made recently.

**Organics.** Most organic fertilizer materials showed strength from time to time but there has been considerable weakness recently in the price of soybean meal. For quick shipment it is quoted at \$62 per ton, f.o.b. Decatur, Ill., in bulk. Linseed meal last sold at \$61 per ton in bulk, f.o.b. Minneapolis. Cottonseed meal was nominal awaiting the new crop meal. Tankage sold at \$7.25 per unit of ammonia (\$8.82 per unit N), f.o.b. Eastern points and blood was

offered at \$8 per unit of ammonia (\$9.72 per unit N), f.o.b. New York.

**Fish Meal.** With the fishing season drawing to a close in the North, little additional trading is looked for. Material is available at about \$133 per ton, f.o.b. fish factories. Some imported material is available from time to time.

**Bone Meal.** Because of the small production, prices have advanced, and this material is now quoted at \$65 per ton, f.o.b. production points, both for feed and fertilizer use. A good demand continues from the feed trade.

**Hoof Meal.** Last sales made at \$6.75 per unit of ammonia (\$8.20 per unit N), f.o.b. Chicago, and few offerings are available.

**Superphosphate.** Stocks of regular superphosphate are said to be plentiful and shipments to plants rather slow, although some pickup is expected shortly. Triple is available now in good supply and no shortage is expected this season.

**Potash.** While some producers reported fairly normal shipments for this time of year, others stated shipments were below last season. Very little imported material is arriving in this country. An expected reduction in domestic freight rates has not materialized so far.

## Philadelphia

October 12, 1954

The raw materials market remains quiet, but shows a tendency toward improvement. While blood and tankage are sufficient in supply to cover requirements, there is a distinct shortage of organic ammoniates otherwise. There are ample stocks of ammonium nitrate, sulfate of ammonia and nitrogen solutions. Superphosphate and potash are moving in normal seasonal proportions.

**Sulfate of Ammonia.** While there is some accumulation of this

material, inventories are reported not uncomfortably large. Demand is fair and no price changes are looked for.

**Nitrate of Ammonia.** Demand is very quiet and stocks are building up. Foreign offerings of somewhat similar material are creating a rather disquieting competitive situation.

**Nitrate of Soda.** The market is seasonably quiet and a reduction of \$1.75 per ton in the price of Chilean grade is reported. This brings the price to \$47.75 per ton in bulk, and \$51.25 in bags.

**Blood, Tankage, Bone.** Blood remains firm at \$8 per unit ammonia (\$9.72 per unit N), here, and \$8.25 (\$10.02 per unit N) in the Chicago area. Tankage is down a little at \$7.25 per unit (\$8.82 per unit N), here and \$8 (\$9.72 per unit N), Chicago. Bone meal is stronger at \$62 to \$65 per ton. Hoof meal is firm at about \$6.75 per unit (\$8.20 per unit N), Chicago basis.

**Castor Pomace.** This is still out of the market with a suggested nominal price of \$30 per ton, but no offerings.

**Fish Scrap.** The menhaden market is firm with limited offerings at \$133 per ton. Imports for the first half of this year ran 8 per cent to 10 per cent above same period last year.

**Phosphate Rock.** Domestic deliveries are enjoying seasonal movement, but exports are confronted with a shortage of vessels and increased freight rates.

**Superphosphate.** Though production is below this time last year, stocks are sufficient to meet all demands and movement is satisfactory.

**Potash.** Supply is ample with movement against contracts a trifle slow. However, increased demand is expected shortly.

FARM CHEMICALS





A special "lazy susan" balance table designed by Chief Chemist J. R. Archer is included in International Minerals & Chemical corp.'s new East Point, Georgia, analytical control laboratory.

## New IMC Lab At East Point

INTERNATIONAL Minerals & Chemical corp.'s Plant Food division has a new analytical control laboratory located at East Point, Ga., according to a recent announcement by Maurice H. Lockwood, IMC vice president.

### Quality Control

Principal function of the lab will be to guarantee quality control, running analyses for nitrogen, phosphoric acid and potash in the grades manufactured by International's 26 fertilizer plants. The new unit has a capacity of about 100,000 determinations a year.

### Central Point is Balance Room

All laboratory rooms lead from the balance room which is the central point. This is the weighing room featuring a custom built 'lazy susan' type balance table designed by Chief Chemist J. A. Archer. This special structure permits samples to move on three revolving tiers making it possible for five chemists to work on the samples at once.

Designed by Heery and Heery, Atlanta and Athens architects, the building is of red brick construction with modern lines and features an entrance patio planted with leroiope grass, azaleas and burfordi holly.

### Time Saving Features

Time saving features and equipment have been included in the structure, and equipment includes a spectrophotometer used in potash analysis. Formerly more than five hours were required for a potash determination, a job the machine does in 45 minutes.

East Point was selected as the site for the new laboratory after a study of eight other cities established its convenience as a mailing center. ♦

NOVEMBER, 1954

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## Cooperation

AS NOTED in our coverage of the Washington meetings of the fertilizer and pesticide control groups, Henry A. Davis, Durham, N. H., retiring president of the fertilizer control association, presented in his address some comments on control work gained through a letter sent to fertilizer producers.

Davis selected 52 manufacturers representing all sections of the country and wrote them regarding work done by the control officials in their areas and also on the publication of control work results. The 25 replies showed that the control officials were generally well considered and contained a number of suggestions on operation and publication methods. We are in no position to evaluate either the suggestions or the comments made.

The response to this inquiry is of concern because less than half, only 25, of the companies responded in any way.

It is obvious in talking with the members of both these groups that they are capable, honest individuals who are doing an excellent job in fulfilling the obligations of their office. One had only to listen to Rodney C. Berry of Virginia deliver his talk on public relations to realize the caliber of those attending the meetings.

We suggest that, although differences of opinion between industry and control groups are a natural occurrence, the efforts of men such as Mr. Davis to better such relationships warrant at the very least a courteous reply.

## Fall Fert. Survey

FALL application of fertilizer has received more publicity this year than in any previous period, and the drive was supported by nearly all major farm magazines and papers.

One of the more interesting pieces on the subject was published in WALLACE'S FARMER AND IOWA HOMESTEAD for Sept. 4, and provided information on a survey made among Iowa farmers on their views and actions in regard to fall fertilization.

As reported by NFA's FERTILIZER NEWS, here are some of the results obtained in the survey:

1. 26 per cent of farm owners and 19 per cent of renters planned to buy early.

2. About 14 per cent of farmers using fertilizer planned to apply it this fall.
3. Over 20 per cent said price discounts in the fall encouraged purchases before spring.
4. 15 per cent wanted to be sure to get the right grade and ratio.
5. To the question, "Do you think fertilizer put on in the fall is as effective as the same fertilizer put on in the spring?", 30 per cent answered yes, 46 per cent no and 24 per cent were undecided.
6. 35 per cent of those interviewed were afraid of losing fertilizer via leaching over the winter if they applied it in the fall.

It would seem from the results of this survey that in Iowa and undoubtedly throughout the country there remains a tremendous educational job to be done on the value of fall application of fertilizers.

Selling fall fertilization will probably remain a problem so long as a majority of farmers feel as those surveyed, that there is a decrease in effectiveness and the plant nutrients are leached from the soil during winter months.

The question of price discounts is an interesting one because at least one major producer and two eastern concerns are known to be actively offering such advantages. This may constitute a fairly effective crutch but won't eliminate the need for continued educational activity.

## Fuel & Fertilizer

ONE TYPE of operation that received considerable attention at the control gatherings was the application of fertilizers by bulk fuel distributors. This practice seems to be gaining headway in many sections and caused some comment on a means of assuring that the proper amounts of fertilizer are being applied by such operators. Remarks, on the whole, were favorable.

This type of operation might well indicate a small, but profitable, sideline for fertilizer manufacturers able to tie in with fuel distributors by supplying them with the correct water soluble mixtures. One major concern in the industry is already supplying a concentrate especially for this application.

The basic concentrate, as formulated, is diluted to a .9-.6-.4 concentration for application to lawns. If you are located near any highly residential areas it might pay to get in touch with a local fuel distributor—he should see the benefit in keeping his equipment moving and his best men on the job throughout the year.

G. P. T., JR.

FARM CHEMICALS

### 322—Liquid N Applicator

A new liquid nitrogen applicator has been developed by the Liberty Mfg. co., featuring a patented hose pump which handles corrosive materials with ease and which does not clog up from accumulation of rust and other particles. This tractor mount rig is low priced compared to present types in operation. A folder is available.

CIRCLE 322 ON SERVICE CARD

### 323—Toximol 500

Ninol Labs claims that Toximol 500 comes close to being a universal emulsifier. It consists of a blend of anionic and non-ionic surfactants and is effective with at least 12 different toxicants. Three to four per cent emulsifier is required over a range of water hardness from 50-1000 ppm. For literature and samples

CIRCLE 323 ON SERVICE CARD

### 324—Suspended Bag Closers

A new four page bulletin describes the Union Special line of suspended head bag closing units, capable of handling a wide variety of work. Designed for cable suspension from overhead mounting with either top balance or counter weight, the machines have a sewing head with built in motor, finger tip controls, automatic brake and chain cutter. All bag weights are handled, textile or paper. For a copy

CIRCLE 324 ON SERVICE CARD

### 325—Pittsburgh 2,4-D

When you handle its 2,4-D, says Pittsburgh Coke & Chem., you are backed by a solid sales program including quality controlled chemicals, performance based on field tests in all areas, fast deliveries and a complete ad program. For complete details

CIRCLE 325 ON SERVICE CARD

### 326—WARF Service

A price schedule is available covering services offered by Wisconsin Alumni Research Foundation. Included in the work done by this organization is screening of compounds for properties, bioassay of crop pesticide residues, chemical determination of insecticides, warm blooded toxicity studies and other chemical, biological and microbiological services. For a copy of the price schedule

CIRCLE 326 ON SERVICE CARD

### 327—Tumbleaf-ML

A new liquid cotton defoliant, Tumbleaf-ML, has been developed by Eston Chem. div., American Potash & Chem. A non-boron product, it is colorless, completely soluble in water and will not stain cotton or clog equipment. Full information is available.

CIRCLE 327 ON SERVICE CARD

NOVEMBER, 1954

FREE INFORMATION to help you  
solve fertilizer, pesticide problems

## Reader Service

### 328—Williams Hammer Mills

A single Williams Patent Crusher & Pulverizer hammer mill can handle a complete size reduction operation whether coarse, intermediate or fine end products are specified. Considerable savings are possible through speed and accuracy of the machines, and equipment costs are reduced because primary and secondary crushers are not required. For literature on the heavy duty mills

CIRCLE 328 ON SERVICE CARD

### 329—Tako Kaolin

Tako, a high grade pure colloidal kaolinitic kaolin produced by Thomas Alabama Kaolin, meets the requirements for use in pesticides and fertilizers. Prompt shipment of selected crude lump or airfloated material is offered in bulk or bagged. For samples and prices

CIRCLE 329 ON SERVICE CARD

#### How to use the READER SERVICE CARD

- Circle number of literature you want.
- Print or type your name, position, company and address.
- Clip and mail the Service Card.

### 330—Aldrin-Fert. Mixes

A bulletin has been released by Private Brands on the combining of liquid or granular aldrin with fertilizer mixtures. It lists the advantages of such products, includes a dilution table for aldrin and an outline of mixing procedure. The company's plan features a Label Registration dept. to handle details for the mixer. For a copy

CIRCLE 330 ON SERVICE CARD

### 331—Cast Elevator Buckets

Special casting techniques by Link-Belt assure uniform sections and smooth surfaces for its line of cast elevator buckets. Six styles are available in malleable iron or Promal for mounting on either belt or chain, and aluminum and bronze can be furnished for special applications. Rigidity is provided by reinforced corners, lips, ends and backs. Complete data, including sizes carried in stock, is incorporated in a catalog.

CIRCLE 331 ON SERVICE CARD

### 332—N Solution Tanks

Two types of special alloy non-corrosive aluminum bulk storage nitrogen solution tanks are produced by Butler Mfg.—bolted vertical 22,000 gal. units for non-pressure solutions and welded horizontal 12,000 and 22,000 gal. bulk storage units for low pressure materials. The nitrogen solution market is booming and, with proper storage facilities, you may find it profitable. For information on these units

CIRCLE 332 ON SERVICE CARD

### 333—Chlordane for Ants

Velsicol has issued a small folder on the control of ants in home and garden through the use of chlordane. It provides application procedures for getting at the ants under various conditions and includes a dilution table for use with several standard chlordane formulations.

CIRCLE 333 ON SERVICE CARD

### 334—Stoker Packer

A new smaller and more economical bag packer has been developed by H. J. Stoker. Delivered as a complete package, the unit handles insecticide dusts and some fertilizers. It delivers one cubic foot of material in 5-10 seconds and fills drums and valve or open mouth bags. For information

CIRCLE 334 ON SERVICE CARD



### 335—Ferti-Liquid

Inquiries are invited by Clover Chemical co. from qualified agents and distributors interested in Ferti-Liquid all-purpose liquid fertilizers. The material contains eight trace elements and wetting agent, is non-corrosive and can be combined with pesticides. Those interested can

CIRCLE 335 ON SERVICE CARD

### 336—Belt Conveyors

Stephens-Adamson offers a complete set of belt conveyor components pre-engineered for customer assembly. The units are designed for lengths to 50 feet and from 51 to 100 feet in both 18 and 24 inch belt widths, with capacities to 150 tph on 18 inch and 250 tph on 24 inch units. A four page folder is available.

CIRCLE 336 ON SERVICE CARD

### 337—Pure Lindane

Ortho lindane, from California Spray-Chem., is purer than the minimum Government standards with a minimum gamma isomer content of 100 per cent, and is available in dry, free flowing crystals easily ground to micro size for formulation as spray or dust. Explanatory literature has been released.

CIRCLE 337 ON SERVICE CARD

### 338—The NH<sub>3</sub> Market

A free booklet has been issued by Edward S. Nelson, Ltd., describing the profit potential of all phases of the anhydrous ammonia industry along with facts on this relatively new market. The Nelson organization produces NH<sub>3</sub> bulk storage plants. For a copy

CIRCLE 338 ON SERVICE CARD

### 339—Formulators' Manual

The Emulsol corp. has released a new edition of the Insecticide Formulators' Manual containing formulation suggestions for many of the newer pesticides as well as for those well established. Included is a lot of useful data of interest to all formulators. To obtain your copy of this helpful publication

CIRCLE 339 ON SERVICE CARD

### 340—Sell Cyanamid

Profits can go up when you add Aero cyanamid to your product lists, according to American Cyanamid. The company points out that farmers profit from a plow down with cyanamid—more humus results; necessary lime is supplied; the 20 per cent nitrogen content resists leaching; nitrogen is placed in the root zone; product costs are reduced; it avoids the reduction in yields often following plow down with crop residues and cover crops alone. For more information

CIRCLE 340 ON SERVICE CARD

### 341—Larvacide Chloropicrin

A four page booklet has been released by Larvacide Products on how to do soil fumigation with Larvacide chloropicrin. Included is information on methods of application, application equipment, estimation of requirements, special applications and precautions. Chloropicrin controls most damping off, wilts, root rots, soil insects, nematodes and weed seeds.

CIRCLE 341 ON SERVICE CARD

### 342—Hand Lift Trucks

Use of Yale & Towne pallet hand lift trucks is described in a new brochure. A variety of pallet types can be utilized by models with hydraulic and mechanical lifts which are well adapted for car unloading, and warehouse operations. Capacities range to 6,000 pounds. Included in the brochure are cutaway drawings and specifications of various pallet types and designs.

CIRCLE 342 ON SERVICE CARD

#### How to use the READER SERVICE CARD

- Circle number of literature you want.
- Print or type your name, position, company and address.
- Clip and mail the Service Card.

### 343—Tote System

The Tote System, a complete bulk material handling system, is built around easily handled aluminum bins. Savings on labor, container, storage, freight claim, product loss, contamination and other costs is possible because it is a completely automatic mechanical method for filling, storing, transporting, discharging, weighing and blending bulk materials including liquids. For illustrated literature

CIRCLE 343 ON SERVICE CARD

### 344—Grain & Mill Fumigants

The use of grain and mill fumigants in combating insect losses in elevators, farm storage, etc. is described in a Westvaco Chem. div. bulletin. Included are data on active ingredients, properties, flammability and dosages.

CIRCLE 344 ON SERVICE CARD

### 345—Propargyl Halides

Available from General Aniline & Film, these materials offer three centers of reactivity, can serve as chemical intermediates for terpenes and pharmaceuticals, etc. and have agricultural uses as fungicides. For technical information and price schedules

CIRCLE 345 ON SERVICE CARD

### 346—Apparatus Digest

An expanded issue of the "Daigger Apparatus Digest" is now available and includes information on a variety of apparatus, instruments and other lab materials. Brief articles on general scientific developments are also presented.

CIRCLE 346 ON SERVICE CARD

### 347—Ammonia Production

Foster Wheeler corp., in a 16 page bulletin, describes the advantages of the Texaco partial oxidation process, Foster Wheeler improved liquid nitrogen wash system and the Casale ammonia synthesis process. For a copy

CIRCLE 347 ON SERVICE CARD

### 348—Hand Trucks

Wheel-Ezy hand trucks, from Rapids-Standard, now are provided with a new loop handle and beveled nose, the latter guaranteed for life. The handle provides a perfect grip at all times. For models, prices and name of nearest dealer

CIRCLE 348 ON SERVICE CARD

### 349—Nonisol 210

Geigy Industrial Chemical suggests the use of Nonisol 210, nonionic surfactant, for your pesticide sprays. The surfactant is soluble in both xylene and kerosene and dispersible in water, possesses a high boiling point and low vapor pressure and has light color, bland odor. For more information on this material

CIRCLE 349 ON SERVICE CARD

### 350—Conveyors & Elevators

Catalogs on spiral conveyors and bucket elevators are available from Jeffrey Mfg. Practically all operating conditions and requirements are met by a wide range of types and sizes.

CIRCLE 350 ON SERVICE CARD

### 351—Acrylon Fumigant

American Cyanamid offers Acrylon fumigant for use with tobacco and dried food products. A mixture of carbon tet and acrlonitrile, the product is a liquid which vaporizes upon exposure to the air. Highly toxic to practically all insect species, Acrylon is supplied in one gallon cans, five gallon pails and in 50 gallon drums. It can be applied through vacuum chamber, atmospheric chamber or space fumigation methods. To obtain a four page bulletin

CIRCLE 351 ON SERVICE CARD

FARM CHEMICALS

# Buyers' Guide

Classified Index to Advertisers in 'Farm Chemicals'

## ALDRIN

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div.,  
Pittsburgh, Pa.  
Shell Chemical Co., Agr. Chem. Div., Denver, Colo.

## AMMONIA—Anhydrous and Liquor

Commercial Solvents Corporation, New York City  
Grand River Chem. Div., Deere & Co., Tulsa, Okla.  
Lion Oil Co., El Dorado, Ark.  
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.  
Phillips Chemical Co., Bartlesville, Okla.  
Spencer Chemical Co., Kansas City, Mo.

## AMMONIA APPLICATORS

KBH Corp., Clarksdale, Miss.

## AMMONIUM NITRATE

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Commercial Solvents Corporation, New York City  
Lion Oil Co., El Dorado, Ark.  
Phillips Chemical Co., Bartlesville, Okla.  
Spencer Chemical Co., Kansas City, Mo.

## AMMONIUM PHOSPHATE

Monsanto Chem. Co., St. Louis, Mo.

## AMMONIUM SULFATE

See Sulfate of Ammonia

## AMMONIUM SULFATE NITRATE

Baker & Bro., H. J., New York City

## BAGS—Multiwall-Paper

Chase Bag Co., Chicago  
International Paper Co., Bagpak Div., N. Y. C.  
Hammond Bag & Paper Co., Wellsburg, W. Va.  
Hudson Pulp & Paper Corp., N. Y. C.  
Kraft Bag Corporation, New York City  
Union Bag & Paper Corp., New York City

## BAGS—Dealers and Brokers

Ashcraft-Wilkinson Co., Atlanta, Ga.  
McIver & Son, Alex. M., Charleston, S. C.

## BAG CLOSING MACHINES

International Paper Co., Bagpak Div., N. Y. C.

## BAG PRINTING MACHINES

Schmutz Mfg., Louisville, Ky.

## BAG FILLING MACHINES

Atlanta Utility Works, The, East Point, Ga.  
Stedman Foundry and Machine Co., Aurora, Ind.

## BHC AND LINDANE

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Diamond Alkali Co., Newark, N. J.  
Pennsylvania Salt Mfg. Co., of Wash., Tacoma,  
Wash.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div.,  
Pittsburgh, Pa.

## BONE PRODUCTS

American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
Jackle, Frank R., New York City  
Woodward & Dickerson, Inc., Philadelphia, Pa.

## BORAX AND BORIC ACID

Woodward & Dickerson, Inc., Philadelphia, Pa.

## BROKERS

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
Jackle, Frank R., New York City  
Keim, Samuel D., Philadelphia, Pa.  
McIver & Son, Alex. M., Charleston, S. C.  
Woodward & Dickerson, Inc., Philadelphia, Pa.

NOVEMBER, 1954

## BUCKETS—Hoist, Crane, etc.

Hayward Company, The, New York City

## CALCIUM ARSENATE

American Agricultural Chemical Co., N. Y. C.

## CARS AND CART

Atlanta Utility Works, The, East Point, Ga.  
Stedman Foundry and Machine Co., Aurora, Ind.

## CASTOR POMACE

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
McIver & Son, Alex. M., Charleston, S. C.

## CHEMISTS AND ASSAYERS

Shuey & Co., Inc., Savannah, Ga.  
Wiley & Company, Baltimore, Md.

## CHLORDANE

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div.,  
Pittsburgh, Pa.

## GLAY

Ashcraft-Wilkinson Co., Atlanta, Ga.

## CONDITIONERS

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Jackle, Frank R., New York City  
Keim, Samuel D., Philadelphia, Pa.  
McIver & Son, Alex. M., Charleston, S. C.  
National Lime & Stone Co., Findlay, Ohio

## CONVEYORS

Power-Curve Conveyor Co., Denver, Colo.  
Link-Belt Co., Chicago, Ill.

## COPPER SULFATE

Republic Chem. Co., New York City  
Tennessee Corp., Atlanta, Ga.

## COTTONSEED PRODUCTS

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, N. Y. C.  
Jackle, Frank R., New York City  
Woodward & Dickerson, Inc., Philadelphia, Pa.

## CUSTOM PESTICIDE FORMULATION

Barco Chemicals, Inc., Des Moines, Ia.

## DDT

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Diamond Alkali Co., Newark, N. J.  
Michigan Chemical Corp., St. Louis, Mich.  
Monsanto Chemical Co., St. Louis, Mo.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div.,  
Pittsburgh, Pa.

## DIELDRIN

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div.,  
Pittsburgh, Pa.  
Shell Chem. Corp., Agr. Chem. Div., Denver, Colo.

## DILUENTS

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Calcium Carbonate Co., Chicago, Ill.  
Pioneer Pyrophyllite Producers, Beverly Hills,  
Calif.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div.,  
Pittsburgh, Pa.  
Summit Mining Corporation, Carlisle, Pa.  
Thomas Alabama Kaolin Co., Baltimore, Md.

## DITHIOCARBAMATES

Berkshire Chemicals, New York City

## ELEVATORS

Power-Curve Conveyor Co., Denver, Colo.  
Link-Belt Co., Chicago, Ill.  
Stedman Foundry and Machine Co., Aurora, Ind.

## ENGINEERS—Chemical and Industrial

Chemical Construction Corp., New York City  
Fairlie, Inc., Andrew M., New York City  
General Industrial Development Corp., N. Y. C.  
Marietta Concrete Corporation, Marietta, Ohio  
Stedman Foundry and Machine Co., Aurora, Ind.  
Titelstad Corporation, Nicolay, New York City

## FERTILIZER—Liquid

Clover Chemical Co., Pittsburgh, Pa.

## FERTILIZER—Mixed

American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Davison Chemical Co., div. of W. R. Grace & Co.,  
Baltimore, Md.  
International Min. & Chem. Corp., Chicago, Ill.

## FILLERS

Bradley & Baker, N. Y. C.

## FISH SCRAP AND OIL

Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
Jackle, Frank R., New York City  
Woodward & Dickerson, Inc., Philadelphia, Pa.

## FULLER'S EARTH

Ashcraft-Wilkinson Co., Atlanta, Ga.

## FUNGICIDES

American Agricultural Chemical Co., N. Y. C.  
Berkshire Chemicals, New York City  
Pittsburgh Coke & Chemical Co., Agr. Chem. Div.,  
Pittsburgh, Pa.  
Republic Chemical Corp., New York City  
Tennessee Corp., Atlanta, Ga.

## HERBICIDES

Diamond Alkali Co., Newark, N. J.  
Lion Oil Company, El Dorado, Ark.  
Monsanto Chemical Co., St. Louis, Mo.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div.,  
Pittsburgh, Pa.

## HERBICIDES—Oils

Lion Oil Company, El Dorado, Ark.

## HOPPERS & SPOUTS

Atlanta Utility Works, The, East Point, Ga.  
Stedman Foundry and Machine Co., Aurora, Ind.

## IMPORTERS, EXPORTERS

Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Berkshire Chemicals, New York City  
Woodward & Dickerson, Inc., Philadelphia, Pa.

## INSECTICIDES

American Agricultural Chemical Co., N. Y. C.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Berkshire Chemicals, New York City  
Diamond Alkali Co., Newark, N. J.  
Fairfield Chem. Div., Food Mach. & Chem. Corp.,  
New York City  
Michigan Chemical Corp., St. Louis, Mich.  
Pennsylvania Salt Mfg. Co., of Wash., Tacoma,  
Wash.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div.,  
Pittsburgh, Pa.  
Shell Chem. Corp., Agr. Chem. Div., Denver, Colo.

## IRON SULFATE

Tennessee Corp., Atlanta, Ga.

## KAOLIN

Thomas Alabama Kaolin Co., Baltimore, Md.

## LEAD ARSENATE

American Agricultural Chemical Co., N. Y. C.

## LIMESTONE

American Agricultural Chemical Co., N. Y. C.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
National Lime & Stone Co., Findlay, Ohio

# Buyers' Guide

**MACHINERY—Acid Making and Handling**  
Atlanta Utility Works, The, East Point, Ga.  
Chemical Construction Corp., New York City  
Monarch Mfg. Works, Inc., Philadelphia, Pa.  
Stedman Foundry and Machine Co., Aurora, Ind.

**MACHINERY—Acidulating**  
Chemical Construction Corp., New York City

**MACHINERY—Grinding and Pulverizing**  
Atlanta Utility Works, The, East Point, Ga.  
Bradley Pulverizer Co., Allentown, Pa.  
Nutri-Sol Chemical Co., Tampa, Fla.  
Poulsen Co., Los Angeles, Calif.  
Stedman Foundry and Machine Co., Aurora, Ind.

**MACHINERY—Material Handling**  
Atlanta Utility Works, The, East Point, Ga.  
Clark Equip. Co., Construction Mach. Div., Benton Harbor, Mich.

Hayward Company, The, New York City  
Hough, The Frank G. Co., Libertyville, Ill.  
Lesman Mfg. Co., Des Moines, Ia.  
Link-Belt Co., Chicago, Ill.  
Poulsen Co., Los Angeles, Calif.  
Power-Curve Conveyor Co., Denver, Colo.  
Stedman Foundry and Machine Co., Aurora, Ind.

**MACHINERY—Mixing, Screening and Bagging**  
Atlanta Utility Works, The, East Point, Ga.  
Nutri-Sol Chemical Co., Tampa, Fla.  
Poulsen Co., Los Angeles, Calif.  
Stedman Foundry and Machine Co., Aurora, Ind.

**MACHINERY—Power Transmission**  
Link-Belt Co., Chicago, Ill.  
Stedman Foundry and Machine Co., Aurora, Ind.

**MACHINERY**  
**Superphosphate Manufacturing**  
Atlanta Utility Works, The, East Point, Ga.  
Link-Belt Co., Chicago, Ill.  
Stedman Foundry and Machine Co., Aurora, Ind.

**MAGNESIUM SULFATE**  
Berkshire Chemicals, New York City

**MANGANESE SULFATE**  
Tennessee Corp., Atlanta, Ga.

**MANURE SALTS**  
Potash Co. of America, Washington, D. C.

**MINOR ELEMENTS**  
Tennessee Corporation, Atlanta, Ga.

**MIXERS**  
Atlanta Utility Works, The, East Point, Ga.  
Stedman Foundry and Machine Co., Aurora, Ind.

**NITRATE OF POTASH**  
Berkshire Chemicals, New York City

**NITRATE OF SODA**  
American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, N. Y. C.  
McIver & Son, Alex. M., Charleston, S. C.  
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.  
International Min. & Chem. Corp., Chicago, Ill.  
Woodward & Dickerson, Inc., Philadelphia, Pa.

**NITROGEN SOLUTIONS**  
Commercial Solvents Corporation, New York City  
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.  
Lion Oil Company, El Dorado, Ark.  
Phillips Chemical Co., Bartlesville, Okla.  
Spencer Chemical Co., Kansas City, Mo.

**NITROGEN MATERIALS—Organic**  
American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
International Min. & Chem. Corp., Chicago, Ill.  
Jackie, Frank R., New York City  
McIver & Son, Alex. M., Charleston, S. C.  
Smith Rowland Co., Norfolk, Va.  
Woodward & Dickerson, Inc., Philadelphia, Pa.

**NOZZLES—Spray**  
Monarch Mfg. Works, Philadelphia, Pa.  
Spraying Systems Co., Bellwood, Ill.

**PARATHION**  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Monsanto Chemical Co., St. Louis, Mo.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div., Pittsburgh, Pa.

**PENTACHLOROPHENOL**  
Monsanto Chemical Co., St. Louis, Mo.

**PHOSPHATE ROCK**  
American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
International Min. & Chem. Corp., Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Woodward & Dickerson, Inc., Philadelphia, Pa.

**PHOSPHORIC ACID**  
American Agricultural Chemical Co., N. Y. C.  
Monsanto Chemical Co., St. Louis, Mo.

**PLANT CONSTRUCTION—Fertilizer and Acid**  
Atlanta Utility Works, The, East Point, Ga.  
Chemical Construction Corp., New York City  
General Industrial Development Corp., N. Y. C.  
Link-Belt Co., Chicago, Ill.  
Monsanto Chemical Co., St. Louis, Mo.  
Stedman Foundry and Machine Co., Aurora, Ind.  
Titlestad Corporation Nicolay, New York City

**PLANT SITES**  
Halliburton, Erie P., Clarkdale, Ariz.

**POTASH—Murate**  
American Potash & Chemical Corp., N. Y. C.  
Ashcraft-Wilkinson Co., (Duval Potash) Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
Duval Sulphur & Potash Co., Houston, Tex.  
International Min. & Chem. Corp., Chicago, Ill.  
McIver & Son, Alex. M., Charleston, S. C.  
Potash Co. of America, Washington, D. C.  
Southwest Potash Corporation, New York City  
United States Potash Co., N. Y. C.

**POTASH—Sulfate**  
American Potash & Chemical Corp., N. Y. C.  
Baker & Bro., H. J., New York City  
International Min. & Chem. Corp., Chicago, Ill.  
Potash Co. of America, Washington, D. C.

**POTASSIUM PHOSPHATE**  
Monsanto Chemical Co., St. Louis, Mo.

**PRINTING PRESSES—Bag**  
Schmutz Mfg. Co., Louisville, Ky.

**PYROPHYLLITE**  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Pioneer Pyrophyllite Producers, Beverly Hills, Calif.

**REPAIR PARTS AND CASTINGS**  
Atlanta Utility Works, The, East Point, Ga.  
Stedman Foundry and Machine Co., Aurora, Ind.

**SCALES—Including Automatic Baggers**  
Atlanta Utility Works, The, East Point, Ga.  
Stedman Foundry and Machine Co., Aurora, Ind.

**SCREENS**  
Atlanta Utility Works, The, East Point, Ga.  
Stedman Foundry and Machine Co., Aurora, Ind.

**SPRAYS**  
Monarch Mfg. Works, Inc., Philadelphia, Pa.  
Spraying Systems Co., Bellwood, Ill.

**STORAGE BUILDINGS**  
Butler Manufacturing Co., Kansas City, Mo.  
Marietta Concrete Corporation, Marietta, Ohio

**STORAGE TANKS**  
Broadway Rubber Corp., Louisville, Ky.  
Butler Manufacturing Co., Kansas City, Mo.  
Cole, R. D., Manufacturing Co., Newnan, Ga.

**SULFATE OF AMMONIA**  
American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
Jackie, Frank R., New York City

Lion Oil Co., El Dorado, Ark.  
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.  
Phillips Chemical Co., Bartlesville, Okla.  
Woodward & Dickerson, Inc., Philadelphia, Pa.

**SULFATE OF POTASH—MAGNESIA**  
International Min. & Chem. Corp., Chicago, Ill.

**SULFUR**  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Texas Gulf Sulphur Co., New York City  
Woodward & Dickerson, Inc., Philadelphia, Pa.

**SULFUR—Dusting & Spraying**  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
U. S. Phosphoric Products Div., Tennessee Corp., Tampa, Fla.

**SULFURIC ACID**  
American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, N. Y. C.  
International Min. & Chem. Corp., Chicago, Ill.  
Lion Oil Company, El Dorado, Ark.  
Monsanto Chemical Co., St. Louis, Mo.  
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

**SUPERPHOSPHATE**  
American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
Davison Chemical Co., div. of W. R. Grace & Co., Baltimore, Md.  
International Min. & Chem. Corp., Chicago, Ill.  
Jackie, Frank R., New York City  
McIver & Son, Alex. M., Charleston, S. C.  
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.  
Woodward & Dickerson, Inc., Philadelphia, Pa.

**SUPERPHOSPHATE—Concentrated**  
Armour Fertilizer Works, Atlanta, Ga.  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
International Min. & Chem. Corp., Chicago, Ill.  
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.  
Woodward & Dickerson, Inc., Philadelphia, Pa.

**TALC**  
Ashcraft-Wilkinson Co., Atlanta, Ga.

**TANKAGE**  
American Agricultural Chemical Co., N. Y. C.  
Armour Fertilizer Works, Atlanta, Ga.  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Bradley & Baker, N. Y. C.  
International Min. & Chem. Corp., Chicago, Ill.  
Jackie, Frank R., New York City  
McIver & Son, Alex. M., Charleston, S. C.  
Smith-Rowland Co., Norfolk, Va.  
Woodward & Dickerson, Inc., Philadelphia, Pa.

**TANKS—NH<sub>3</sub> and Liquid N**  
Birmingham Tank Co., Birmingham, Ala.  
Broadway Rubber Corp., Louisville, Ky.  
Butler Manufacturing Co., Kansas City, Mo.  
Cole, R. D. Manufacturing Co., Newnan, Ga.

**TEPP**  
Monsanto Chemical Co., St. Louis, Mo.

**TOXAPHENE**  
Ashcraft-Wilkinson Co., Atlanta, Ga.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div., Pittsburgh, Pa.

**2, 4-D**  
Diamond Alkali Co., Newark, N. J.  
Monsanto Chemical Co., St. Louis, Mo.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div., Pittsburgh, Pa.

**2, 4, 5-T**  
Diamond Alkali Co., Newark, N. J.  
Monsanto Chemical Co., St. Louis, Mo.  
Pittsburgh Coke & Chem. Co., Agr. Chem. Div., Pittsburgh, Pa.

**UREA & UREA PRODUCTS**  
Baker & Bro., H. J., New York City  
Bradley & Baker, N. Y. C.  
Grand River Chem. Div., Deere & Co., Tulsa, Okla.  
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.

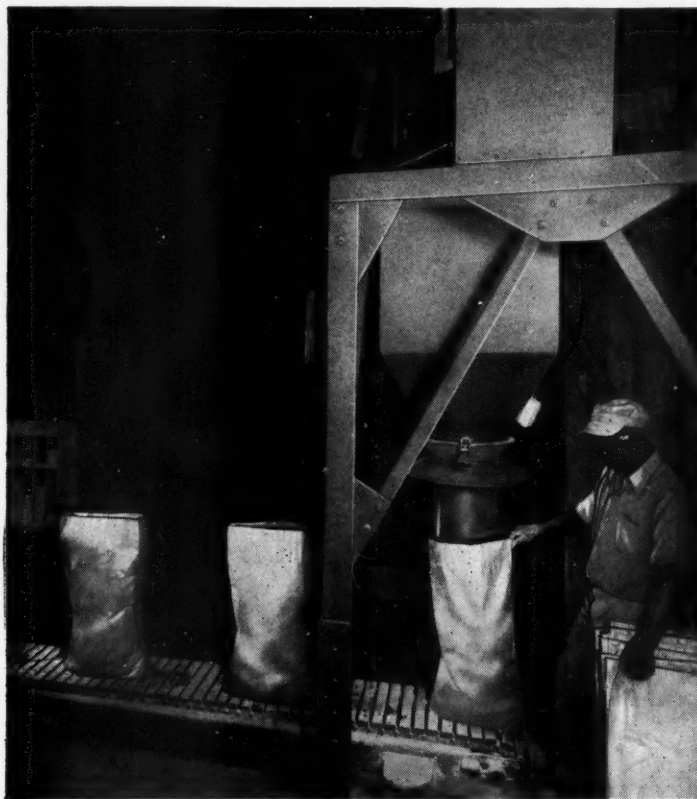
**VALVES**  
Atlanta Utility Works, The, East Point, Ga.  
Monarch Mfg. Works, Inc., Philadelphia, Pa.

**ZINC SULFATE**  
Tennessee Corp., Atlanta, Ga.

FARM CHEMICALS



# How Union Bag's I & C BAGGER is reducing Multiwall Packaging Costs



In its first year of field use, the new I & C Bagger has proved conclusively that it substantially reduces packaging labor costs, increases production, and is instrumental in bringing about important economies in the cost of the Multiwall Bags themselves.

User's own records have verified that Union's I & C Bagger is the most efficient and practical unit yet introduced for accurate, high speed weighing and packing of free-flowing, non-bridging materials. It operates on a completely automatic filling and weighing cycle, processes 400 to 500 tons in an eight-hour day, maintains a packing-rate well ahead of any other open-mouthed packer.

Many plants which originally made pilot installations of I & C Baggers, already have ordered additional units. Demand for the new equipment has been so great that a complete new manufacturing plant has been built.

The I & C Bagger is sold exclusively by Union Bag. It is installed and serviced by trained Union packaging engineers. Crews are located to render immediate and efficient service.

## CASE HISTORIES SHOW WHY MANY USERS ARE ORDERING ADDITIONAL EQUIPMENT

**Approximately 40% of the packing plants who have installed one machine have reordered one or more I & C Baggers for either the same plant or other branches.**

### **SAVES \$50 A DAY—WINS NEW CUSTOMERS**

Installation of an I & C Bagger enabled a small southern fertilizer plant to save \$50 a day by reducing man power and increasing production.

### **PLANT ORDERS 11 MORE**

A large plant food company which had installed an I & C Bagger was so pleased with the test that the company has installed ten additional units throughout its various branches, and recently has ordered two more.

### **CONVERT EIGHT ADDITIONAL PLANTS**

A company which last fall converted one of

its plants to a sewn open mouth operation, using an I & C Bagger for its weighing and filling, has since converted eight of their other plants. This company has saved \$7.00 per thousand in its bag cost alone. It has also claimed additional business by being able to move its trucks from the loading dock with more speed than ever before.

### **TRACE DIRECT PROFITS TO I & C BAGGER**

A Florida branch of a national chemical company had consistently been running in the red. With the adding of an I & C Bagger this branch went into black for the first time.



*Exclusive sales agents:*

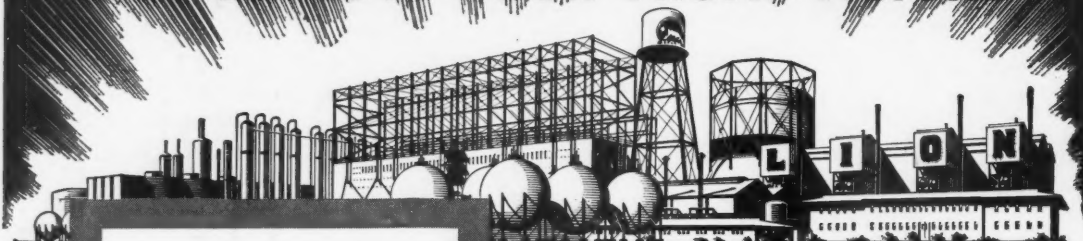
**MULTIWALL  
PACKAGING  
MACHINERY  
DEPARTMENT**

**UNION BAG  
& PAPER CORPORATION**

Woolworth Building, New York 7, N. Y.

# I & C Bagger

# A LEADER CAN IMPROVE YOUR PROFIT PICTURE



**Lion—A Leader  
in Petro-Chemicals—  
offers**

## **ONE-STOP SERVICE FOR QUALITY NITROGEN FERTILIZER MATERIALS**

**Lion Anhydrous Ammonia** — For formulation. A uniformly high-quality basic product. Nitrogen content, 82.2%.

**Lion Aqua Ammonia** — For formulation or acid oxidation. Ammonia content about 30%. Other grades to suit you.

**Lion Ammonium Nitrate Fertilizer** — For formulation or direct application. Improved spherical pellets. Guaranteed 33.5% nitrogen.

**Lion Nitrogen Fertilizer Solutions** — For formulation. Three types to suit varying weather and manufacturing conditions.

**Lion Sulphate of Ammonia** — For formulation or direct application. Uniform, free-flowing crystals. Guaranteed to contain a minimum of 21% nitrogen.

Because of Lion's leadership in nitrogen fertilizer production in the South, Lion can show you the way to **MORE PROFITS**.

When you buy your complete nitrogen requirements from Lion, you automatically put yourself in a position to improve your profit picture. Here's how:

- 1 You Save Time** • You can contract at one time, with a single dependable source, for all of your nitrogen fertilizer material requirements. And, of course, time saved today is reflected in your profits tomorrow.
- 2 You Prevent Manufacturing Delays** • Formulation material that does not have consistent quality can slow down or delay your own production needlessly. With Lion's Quality Control, you can be sure of *quality* materials. The difference will show up in your profit column.
- 3 You Solve Problems Quicker** • If you run into a formulation snag, Lion's highly trained Technical Staff will be ready to give you the kind of technical assistance that can only come from a leader. This aid can help improve your profit picture... and *it's yours for the asking*.

DISTRICT SALES OFFICES: NATIONAL BANK OF COMMERCE BUILDING, NEW ORLEANS, LOUISIANA • SHEPHERD BUILDING, MONTGOMERY, ALABAMA

# LION OIL

CHEMICAL SALES DIVISION



# COMPANY

EL DORADO, ARKANSAS

